Opportunities for Landowners in the California Carbon Market

An Investor’s View

ACES and Ecosystem Markets 2012

Thursday, December 13, 2012

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Global real asset manager. New Forests manages over USD $1.3 billion in capital for investments in sustainable timberland and associated environmental markets, such as carbon, biodiversity and water.

Forest carbon offset expertise. We are an experienced investor in forest carbon offset projects for the California cap and trade system. We finance, develop, and manage forest carbon offset projects for forest landowners – handling everything from a free initial credit yield estimate to forest carbon offset sales.

Projects developed for the California market. We are financing and developing offset projects on more than 75,000 acres of timberland.

Offset sales track record. We have sold a significant volume of forest carbon offsets into the California carbon market and expect to deliver 1-2 million tonnes per year commencing in 2013.
**California Carbon Market Overview**

**AB32.** In 2006, the State of California enacted the “California Global Warming Solutions Act” or “AB32”, which requires a reduction in greenhouse gas emissions to 1990 levels by 2020.

**Cap and Trade.** AB32 mandated the creation of a cap and trade market to help reduce greenhouse gas emissions, which became operational in January 2012. This will be the largest carbon market in North America and the second largest in the world.

**Offsets.** The cap and trade market will include the use of offsets. Analysts expect offset demand to range from 150-200 million tonnes in aggregate by 2020, with an expected total market value of USD $2 to $8 billion.

**Supply-constrained market.** Current offset supply is approximately 9 million tonnes. We can discuss current market participants, volume and price trends.
How does a cap and trade market work?

Emissions, Allowances and Offsets

<table>
<thead>
<tr>
<th>Category</th>
<th>Metric tonnes CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions</td>
<td>1000</td>
</tr>
<tr>
<td>Allowances &amp; Offsets</td>
<td>900</td>
</tr>
</tbody>
</table>

Offsets: 100
How does the California system reduce emissions?

Forecast GHG Emissions and Cap

- Forecast Emissions
- Cap
What is the market for California offsets?
What is the supply of California offsets?

Current Early-Action Offset Supply

- Avoided Conversion: 53%
- Conservation-Based Forest Management: 20%
- Improved Forest Management: 15%
- Livestock Gas Capture/Combustion: 7%
- Ozone Depleting Substances - U.S.: 5%
Outline

1. About New Forests
2. Carbon Market Overview
3. How the California Forest Project Protocol Works
4. Risks and Opportunities for Landowners
5. Conclusion
How do CA forest offset projects work?

• The Compliance Protocol for U.S. Forest Projects was adopted by the California Air Resources Board in October 2011.

• It allows three project types: Improved Forest Management, Avoided Conversion, and Afforestation/Reforestation.

• The following summary of the modeling process applies to Improved Forest Management projects, which do not require conservation easements and which can be issued credits for changers in forest management measured against a conservative “business as usual scenario.”
How do CA IFM offset projects work?

- Actual carbon stock per acre estimated by forest inventory
- Modeled change in carbon stocks over time (must reflect financial and legal constraints)
- Average of modeled carbon stocks over 100 years (must be above Common Practice)
- Completed baseline after the addition of other required measurement pools = “Project Baseline”

Average CO2e stock per acre in above-ground live trees from FIA plots = “Common Practice”

e.g. 84
How do CA IFM offset projects work?

Actual carbon stock estimated from forest carbon inventory and sales of wood products.

- Credits issued in year 0
- Credits issued in year 1
- Credits issued in year 2

“Project Baseline”

Time
How do CA IFM offset projects work?

**Landowner Obligations**
- A commitment to maintain any carbon stocks sold for 100 years from the date of sale on the project area.
- Landowners can exit project at any time but must purchase and retire carbon offsets to replace credits issued to the project (plus some additional credits if exiting the project in years 1-50).
- Conservation easements are not required.

**Forest Management**
- Harvesting is allowed, but carbon sold must be maintained on property. If carbon stock falls below the level to which credits have been issued, credits must be retired to cover the harvest.
- Native species and natural forest management must be used.
- There is no penalty for unintentional destruction of carbon stocks (e.g. fire) – covered by buffer insurance mechanism.

**Monitoring and Reporting**
- Annual carbon accounting reports must be provided for duration of project (desk report).
- On-site verification must occur at least every 6 years.
- Full re-inventory must be carried out every 12 years.
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Risks for Landowners

- **Political risk**
  - System collapse (legislation, litigation, 2020 sunset)
  - New offset project types (competing supply)
  - Regulatory changes that affect demand

- **Price volatility**
  - High current volatility

- **Long-term commitments**
  - 100-year commitment to maintain carbon stocks sold (unless repurchased)
  - Annual monitoring reports, periodic site verifications and re-inventory

- These risks can be mitigated
Challenges for Landowners

- Assessing project viability in the absence of inventory data.
- Identifying responsible business partners.
- Navigating verification and registration – emerging practices.
- Marketing credits, particularly in small lots.
Opportunities for Landowners

- The California carbon market is likely to be among the largest sources of finance for forest conservation and best management practices in the nation over the next 5-7 years.

- The market is closely regulated and the cap and trade system creates a deeper, more sustainable source of demand than the voluntary market.

- The California forest project protocol in effect creates a new commodity market for forest landowners that competes with the price signal for timber.

- It is possible to manage for both timber and carbon – selling a few years of growth as timber or carbon (or a mixture) depending on relative prices.
Opportunities for Landowners

- At present, the California carbon market is a good fit for:
  - Landowners with lower opportunity costs (lower value timber, higher harvest and haul costs)
  - Landowners with subjective, but not legally binding commitments to conservation management – an opportunity to get paid for past and future stewardship
  - Non-industrial private forest landowners
  - Select private industrial landowners
  - Landowners with a long intended hold period
  - Landowners with a higher risk tolerance
Opportunities for Landowners

New Forests offers free, no-obligation credit and cash yield estimates from California forest carbon offset projects.

New Forests finances forest carbon offset projects, paying for and managing all aspects of project development, registration, and credit sales.
Conclusions

- The California carbon market presents significant, near-term opportunities for landowners.
- It is not a free lunch, and it does not work for every landowner.
- Landowners with lower opportunity costs from timber sales, a subjective commitment to conservation management, or with a long intended hold period are good candidates for CA forest carbon offset projects.
- Where carbon does pencil out, it can provide significant new revenue for landowners.
- Key risks to landowners are mitigated by the structure of the system.
- Landowners face challenges in evaluating, developing and managing offset projects – choosing reliable partners is key.