Forests: Taking Root in the Voluntary Carbon Markets

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Ecosystem Marketplace

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About the Ecosystem Marketplace

- A Project of Forest Trends
- “Bloomberg” for Emerging Markets in Ecosystem Services
- Coverage of payment for environmental service transactions--carbon, biodiversity, water markets
- Consistent information critical for building these environmental markets/transactions
- News updated daily, with commissioned articles and newsletters, quantification
Current Highlights

US-Based Voluntary Offset Projects: Coming of Age?

There seems to be ever growing market demand for carbon neutral services in the United States. But with voluntary carbon offsets under attack, can America's fledgling market deliver the kinds of high-quality offsets that sophisticated global players demand? The Ecosystem Marketplace examines the issues framing the debate in the US market.

MarketWatch

Tracking transactions, pricing trends, and buyers listings across 14 markets where ecosystem services are paid for. Markets are arranged under the categories of biodiversity, carbon, and water. Visit MarketWatch | CNBC Coverage: Street Signs | Squawkbox

Profile

Pennsylvania's Environmental Revolutionary: Kathleen McGinty

The Ecosystem Marketplace follows the career of Kathleen McGinty, head of the

Features

Parthenon Capital Fuels Wildlands, Inc. Rapid Growth

Wildlands, Inc. recently announced that Parthenon Capital, a private equity firm with over $1.5 billion under management, has invested in the company. The Ecosystem Marketplace finds out how Wildlands, Inc. plans to put the new
EU ETS
Vol: 1,101 Mt (CO2e)
Value: $24,357 Million

CCX
23 Mt
$72 M

Voluntary OTC
42 Mt
$254.4 Million

CDM
791 Mt
$5,877 Million

JI
41 Mt,
$499 M

NSW
GGAS
25 Mt
$224 M

Source: New Forests/Ecosystem Marketplace,
World Bank
### The Voluntary Carbon Markets

<table>
<thead>
<tr>
<th>The Chicago Climate Exchange (CCX)</th>
<th>“Over the Counter” Voluntary Carbon Markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Voluntary, but legally binding U.S. based Cap &amp; Trade system</td>
<td>• Operating outside of any formal exchange</td>
</tr>
<tr>
<td>• Membership based</td>
<td>• Scattered transactions</td>
</tr>
<tr>
<td>• Internal standards</td>
<td>• Almost completely offset based credits</td>
</tr>
<tr>
<td>• Includes offset credits but also allowance based credits</td>
<td>• Represents consumer demand for carbon offsets</td>
</tr>
<tr>
<td></td>
<td>• Buyer beware</td>
</tr>
</tbody>
</table>
Size and Growth

Source: Ecosystem Marketplace and NCF, 2007
<table>
<thead>
<tr>
<th>Project Categories</th>
<th>% 2007 Market</th>
<th>2007 tCO$_2$e Transacted</th>
<th>2008 (preliminary)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CDM</strong></td>
<td>&gt;1%</td>
<td>~ 3 mtCO$_2$e</td>
<td>~ 3 mtCO$_2$e</td>
</tr>
<tr>
<td><strong>NSW GGAS</strong></td>
<td>4%</td>
<td>986,884</td>
<td>135,132 (Mid-year)</td>
</tr>
<tr>
<td><strong>CCX</strong></td>
<td>~ 1% (total)</td>
<td>266,500 sold (600,000 tCO$_2$e registered in 2007)</td>
<td>6.9 mtCO$_2$e registered in 2008</td>
</tr>
<tr>
<td><strong>Voluntary OTC</strong></td>
<td>15%</td>
<td>6.3 mtCO$_2$e</td>
<td>Unknown</td>
</tr>
</tbody>
</table>
Voluntary Carbon Markets Embracing Forestry

- Can potentially avoid CDM cost hurdles
- Space for innovation & testing methodologies
- Demand for “Charismatic Carbon” in voluntary markets
- Forestry easy for consumers to understand
- Currently the only space for REDD
OTC Market Project Types

- Energy Efficiency: 18%
- Fuel Switching: 9%
- Industrial Gas: 2%
- Non-REC RE (grid): 20%
- RECs: 4%
- Non-REC RE (non-grid): 7%
- Aff/Ref: 4%
- Aff/Ref mixed native: 8%
- Aff/Ref mixed: 5%
- Geological Seq.: 1%
- Avoided def.: 5%
- Agricultural Soil: 3%
- Livestock: 4%
- Landfill: 5%
- Coal MM: 7%
Project Type by Location

- Mixed/Not specified
- Fugitive Emissions
- Geological Sequestration
- Fuel Switching
- Energy Efficiency
- Industrial Gas
- Renewable Energy
- Methane
- Forestry/Land Use

Project Location:
- EU: 8%
- Non-EU: 5%
- Canada: 4%
- US: 23%
- Aus/NZ: 7%
- Latin Am.: 7%
- Asia: 39%
- Middle East: 0.2%
- Africa: 2%
- Mixed: 5%

MtCO2e
Land Based Projects In OTC

- Agricultural Soil 16%
- Other (e.g. Wetlands preservation) 0.1%
- Avoided Deforestation 28%
- A/R - Plantation 13%
- A/R - Native Restoration 42%

OTC Market Prices

• Average prices increased by 50% from $4.1/t to $6.1/t
• But still large range $1.5/t to $300/t!
• Reasons for price increase: Reduction in industrial gas, Increase in RE, EE and Methane, Higher willingness to pay
• Highest price projects: forestry, renewable energy, methane
• Lowest price projects: Agricultural soil, industrial gas, geological sequestration
How are credits getting to buyers?

- Project Developer (20): $5.0
- Broker (26): $5.4
- Wholesaler/Aggregator (11): $6.6
- Retailer (22): $11.3

Price ($US/t)
Who is driving this market

- Businesses (for profit) final buyers: 50%
- Businesses (for profit) resale: 29%
- Non-governmental organization: 13%
- Other: 3%
- Individuals: 5%
- Government: 0.4%
Where are they?

- EU: 47%
- USA: 34%
- Australia/New Zealand: 8%
- Canada: 3%
- Unknown: 8%
- Asia: 0.1%
- Latin America: 0.2%
- Middle East: 0.3%
Voluntary carbon in the mainstream media limelight…

Financial Times
**Industry caught in carbon ‘smokescreen,’**
April 25, 2007

Business Week
**Another Inconvenient Truth,** March 23, 2007

New York Times
**Carbon-Neutral Is Hip, but Is It Green?** April 29, 2007

Christian Science Monitor
**Do carbon offsets live up to their promise?,** January 10, 2007
Credo = Trust: Standards/Certification Programs...

- Greenhouse Friendly
- California Climate Action Registry Protocols
- VER+
- ISO 14064
- Gold Standard
- Voluntary Carbon Standard
- Climate Community Biodiversity Standards
- Plan Vivo
- Carbon Fix...
Standards Predictions

Number of orgs

- Retailer: 3%
- WBSCD Gold Standard: 6%
- ISO 14064: 8%
- Green E: 4%
- CCBS: 10%
- VCS: 23%
- Social Carbon: 3%
- VER+: 10%
- VOS: 3%
- GH Friendly: 5%
- CCX: 2%
- CDM: 4%
- CCAR: 1%

Wholesaler/ Aggregator
Retailer
Project Developer
Other
Broker
## Next big thing... Registries

<table>
<thead>
<tr>
<th>Serial Numbers</th>
<th>Bank of New York</th>
<th>Environmental Resources Trust</th>
<th>Blue Registry</th>
<th>CCX Registry</th>
<th>Triodos Climate Clearing House</th>
<th>California Climate Action Registry</th>
<th>Asia Carbon Registry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Unknown</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Standard/Verification Requirements</th>
<th>Voluntary Carbon Standard</th>
<th>ERT Approved</th>
<th>VER+ Standard, Plans to incorporate other standards</th>
<th>CCX Board Approved;</th>
<th>Unknown</th>
<th>CCAR Protocols</th>
<th>Approved standards available on the market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparency</td>
<td>Accepted standards public; Account information not disclosed</td>
<td>Standards used unclear; Account information public</td>
<td>Accepted standards public; Account information public</td>
<td>Uses CCX Standards; Exchange data public; Account information not disclosed</td>
<td>Standards unclear; Account information not disclosed</td>
<td>Accepted standards public; Account information public</td>
<td>Accepted standards public; Unclear if account information public</td>
</tr>
</tbody>
</table>

|----------------------|------|-----|--------------------------|-----|-----|--------------------------------------------------------|-----|

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<thead>
<tr>
<th>Total Credits Registered</th>
<th>Unknown</th>
<th>345,346,812t; of which 17,173,624 offset credits</th>
<th>Upcoming Registry</th>
<th>345,356,812t Registered, of which 12,865,500t offset credits</th>
<th>2,033,707t offset credits</th>
<th>2001 emissions reductions registered; registered credits upcoming</th>
<th>Upcoming</th>
</tr>
</thead>
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Ecosystem Marketplace
On the Horizon

- Kyoto Negotiations: Copenhagen 2009
- Voluntary markets: Impact of financial crisis
- A major question is how U.S. federal regulation will influence voluntary markets & fund global forests
- Google, Yahoo, Patagonia, Pacific Gas & Electric ETC. all utilizing offsets to mitigate climate impact
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