Carbon Markets in Challenging Times

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September 15, 2009
IEA/IETA/EPRI Annual Workshop on GHG Emissions Trading
Paris
Carbon Market Outlook 2009 – The Negative

- Financial crisis adjustments
  - Fewer banks
  - Struggling developers
  - No IPOs
- Recession adjustments
  - Less EU demand
  - Sell-off impacts
- Policy uncertainty
  - EU is clearer
  - US, Canada and Australia are stalled
- Regulatory friction
  - CDM approval trends are negative
  - Staff shortages, DOE problems cause delays
Carbon Market Outlook 2009 – The Positive

- **Copenhagen’s impact**
  - Long term investment framework may come more into focus
  - Strength of targets for developed countries
  - Phase-in of developing country commitments
  - Role of trading mechanisms

- **US Senate and Obama Administration actions**
  - ACES would stimulate huge need for offsets (2 billion tonnes/year)
    - Existing instruments cannot meet this demand
    - New instruments needed
    - REDD and Sectoral-crediting need more definition
  - Other cost containment policies may dampen demand
    - Banking, borrowing
    - Strategic reserves
  - Market oversight rules will impact its formation
Global Carbon Market Growth

Market Values 2008

- EU Allowances: $92 billion
- Primary CDM: $6.5 billion
- Secondary CDM: $26 billion
- Other: $1.5 billion
- Total Market: $126 billion

CDM/JI Market Trends

Figure 2: Annual Volumes (MtCO$_2$e) of Project-Based Emission Reductions Transactions (vintage up to 2012)

Current Carbon Market Value and Future Estimate

**Market Value ($ / year)**

- **2005-12 Market Value USD $ Billions/year**
  - $11 (2005)
  - $31 (2006)
  - $64 (2007)
  - $125 (2008)
  - $170 / yr (2008-2012)
  - $2,036 (2020)

- **Annual Emissions Shortfall Millions Tonnes**
  - EU Program + Kyoto: 5,369 MT/yr
  - U.S., EU and Post-Kyoto: 3,342 MT/yr (U.S.), 2,027 MT/yr (EU)

See endnotes 1-5 for data sources and assumptions.
Waxman-Markey Compliance Obligations

2012
66.2% of U.S. emissions

- Electricity Source
- Petroleum/Coal Based Fuel Producer or Importer
- Fluorinated Gas Producer
- Geologic Sequestration Site

2014
75.7% of U.S. emissions

- Industrial Source
- Petrochemical Producer
- Large Industrial Boiler

2016
84.5% of U.S. emissions

- Natural Gas Distributor
**Allocations Identified by: Purpose/Recipient**

- Domestic Adaptation/Auction: 0.1%
- Wildlife & Natural Resource Adaptation/Auction: 0.6%
- Other/Auction: 0.2%
- Low Income Consumers/Auction: 15.0%
- Auctioned: 7.1%
- Allocated to Covered Sectors: 36.5%
- Allocated to Non-Covered Sectors: 13.4%
- Trade Vulnerable Industries: 9.0%
- Natural Gas Consumers/LDCs: 9.0%
- Energy Efficiency and Renewables/States: 7.1%
- Energy R&D/Energy Innovation Hubs & Research Centers: 1.5%
- Supplemental Ag & Renewable Energy Incentives Programs/States: 0.3%
- International Clean Tech Deployment/Multilateral Funds, etc: 1.0%
- Supplemental Reductions from Reduced Deforestation/Foreign Governments, etc: 5.0%
- Home Heating Oil and Propane Consumers/States: 1.5%
- Petroleum Refineries: 2.3%
- Investment in Clean Vehicle Technologies/States, Manufacturers and Others: 3.0%
- Investment in Workers/Auction: 0.5%
- Wildlife & Natural Resource Adaptation/Multilateral Funds, etc: 1.0%
- Domestic Adaptation/States: 0.9%
- Wildlife & Natural Resource Adaptation/States: 0.4%

Note: Allocations to the strategic reserve are not included in the chart. The allocation %s in the pie chart match those in the bill, which are %s of the total cap adjusted to exclude allocations to the strategic reserve. The reserve receives an allocation equal to 1% of the cap in 2016.
## ACES: Compliance Options

<table>
<thead>
<tr>
<th>Compliance Option</th>
<th>Max % of Compliance Obligation</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Banking</td>
<td>Unlimited</td>
<td></td>
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<tr>
<td>Borrowing</td>
<td>Unlimited</td>
<td>From following compliance year</td>
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<tr>
<td>Borrowing</td>
<td>15%</td>
<td>2-6 year allowance borrowing (8% interest per annum)</td>
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<tr>
<td>Strategic Reserve allowances</td>
<td>20%</td>
<td>• $28 initial reserve price</td>
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<td></td>
<td></td>
<td>• Price increases by 5% plus inflation 2013-2014</td>
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<td></td>
<td></td>
<td>• +60% over average allowance price 2015-2050</td>
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<tr>
<td>Domestic and international offsets</td>
<td>Appx. 30% total</td>
<td>• Aggregate 2 billion ton annual limit</td>
</tr>
<tr>
<td></td>
<td>• 15% domestic</td>
<td>• Administrator can increase limit of international offsets to 1.5 billion/year</td>
</tr>
<tr>
<td></td>
<td>• 15% international</td>
<td></td>
</tr>
<tr>
<td>International allowances</td>
<td>Unlimited</td>
<td>(e.g., EUAs)</td>
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For additional information

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References

http://siteresources.worldbank.org/NEWS/Resources/State&Trendsformatted06May10pm.pdf

2. Based on 2 billion EU allowances (EUA), EUA turnover estimate of 2.5, average EUA estimate of €20, a turnover estimate of 7 for secondary CER transactions, and an average price of €12 for Kyoto compliance offsets.

   New Carbon Finance estimates the EU + Kyoto carbon market value will reach $120 billion in 2009 and $265 billion in 2012 (estimates not shown in the graph). “Carbon Industry Intelligence April 2009: Carbon Market Round Up Q1 2009”.
http://www.newcarbonfinance.com/?p=about&i=freereports

   Point Carbon estimates the value of the carbon market will be €62.6 billion in 2009 ($82.6 billion based on a $1.32/€1 exchange rate as of January 30, 2009); “CMA Outlook for 2009” February 19, 2009.

3. The $2 trillion estimate of market value in 2020 represents a New Carbon Finance’s estimate based on “Carbon Industry Intelligence April 2009: Carbon Market Round Up Q1 2009”.

4. Natsource Advisory and Research Services estimate of planned purchases and gap in 2008-12 between emissions and Kyoto targets for the EU, Japan and other industrialized Kyoto signatory countries (excluding Canada), and EU ETS demand for surplus CERs to be banked into Phase 3, based on various data sources, as of Q1 2009.