Managing Risk in California’s Carbon Market:

*Overview and Trading Activity*

Prepared By:
Lenny Hochschild
Evolution Markets, Inc.
California Cap in million mtCo2e

**Compliance Period I (2013 - 2014)**
- 2013: 162.8
- 2014: 159.7
  (CP I offsets max demand: 25.8M)

**Compliance Period II (2015 – 2017)***
- 2015: 394.5
- 2016: 382.4
- 2017: 370.4
  (CP II offsets max demand: 91.8M)

**Compliance Period III (2018 – 2020)**
- 2018: 358.3
- 2019: 346.3
- 2020: 334.0
  (CP III offsets max demand: 83.1M)

Total approximate Allowances from 2013 – 2020: **2.5 billion**
Total max offsets demand through 2020: **201 million** (8% of compliance obligation)

* Transportation sector emissions added to the cap
Early Action Credits

- Golden CCO’s - The solution to Buyers Liability
- CCO(3) - Primary vs. Secondary
- CCO(8) - Primary vs. Secondary
- Early Action Credit CRTs (Forestry, Livestock, US ODS)
- Non Early Action Credit CRTs or Other such as REDD
Future California Offsets?

- **CMM** (CARB Study: 50MM / Developers: 30MM)
- **Methane Capture from Rice Production** (CARB/Developers: 3MM)
- **REDD** (volume: too many unknowns)
- **Others** (MX ODS, Nutrient management etc...)

Evolution Markets Inc. – Proprietary & Confidential
Compliance & Pre-Compliance Products

Note: all prices are indicative based on current market/regulatory conditions and are subject to change.

Dec 2013 California Carbon Allowance (CCA) as of 4/15/13

$15.00

80%-85% of V13 Dec13 CCA

$8.50/$9.00

65%-75% of V13 Dec13 CCA

Coal Mine Methane & Methane Capture from Rice Production

December 2013 California Carbon Offset (CCO), Seller wears invalidation risk

Issued Early Action Credit CRTs

Dec 2013 California Carbon Offset (CCO), Buyer wears invalidation risk

Evolution Markets Inc. – Proprietary

The Intersection of Environment, Energy and Finance.
# Demand vs. Supply Base Case

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
<td>6,221,404</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-State Electricity</td>
<td>34,921,146</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cogeneration</td>
<td>9,622,361</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Combustion</td>
<td>12,587,386</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refinery &amp; Hydrogen</td>
<td>35,132,812</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil &amp; Gas Production</td>
<td>12,559,822</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub-Total</td>
<td>111,044,931</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric Imports</td>
<td>46,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Biomass &amp; Biogas</td>
<td>(16,800,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Excluding Transportation Fuels</td>
<td>140,244,931</td>
<td>140,244,931</td>
<td>140,244,931</td>
<td>140,244,931</td>
<td>140,244,931</td>
</tr>
<tr>
<td>Total Including Transportation Fuels</td>
<td>403,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allowance Cap Less P.C.R.</td>
<td></td>
<td></td>
<td>161,172,000</td>
<td>158,103,000</td>
<td>378,720,000</td>
</tr>
<tr>
<td>Offset Supply Assume 6% Utilization</td>
<td></td>
<td>8,414,696</td>
<td>8,414,696</td>
<td>24,180,000</td>
<td></td>
</tr>
<tr>
<td>Base Case Supply</td>
<td></td>
<td></td>
<td>169,586,696</td>
<td>166,517,696</td>
<td>402,900,000</td>
</tr>
<tr>
<td>Net Cumulative Position</td>
<td></td>
<td></td>
<td>29,341,764.86</td>
<td>55,614,529.72</td>
<td>55,714,529.72</td>
</tr>
</tbody>
</table>
California Carbon: Who is Involved?

Compliance Entities and their approximate Allocations*

**Load Serving Entities:**
- Investor Owned Utilities: 90%
- Municipalities: 90%
- Irrigation Districts: 90%
- Cooperatives: 90%
- Independent Power Producers: 0%
- Power Importers: 0%

**California Refineries:**
- Process Emissions from the refineries 90%
- Product Emissions: 0%

**Industrials:**
- Cement: 90%
- Oil and Gas Producers: 90%
- Food Processors: 90%
- Steel & Glass Manufacturing: 90%
- Natural Gas Distribution Companies

**Financials:**
- Banks with California Power & Gas Desks
- Environmental Hedge Funds
- Global Energy Trading Companies
- Power Marketers

**Offset Developers:**
- Forestry (U.S. and Int'l)
- ODS
- Livestock
- Other (CMM, Rice, Nutrient Management)

*Benchmarking by sector provides either >, <, or = 90% to each Facility.
Lenny Hochschild
Managing Director
Evolution Markets Inc.

3 Embarcadero Center
San Francisco, CA 94141

tel. +1.415.963.9138
mob. +1.415.269.3092
email lennyh@evomarkets.com
website www.evomarkets.com