American Carbon Registry: Update on Agricultural Offsets

C-AGG Meeting
Washington, DC
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Jessica Orrego
• Founded in 1996 as the world’s first private voluntary GHG registry & joined Winrock in 2007
  – 40 million tons of emissions reductions issued
• Approved in December 2012 as California Offset Project Registry & Early Action Offset Program
  - Supports ARB’s implementation of the Cap-and-Trade Offset Program from ACR’s Sacramento office
• Registry roles:
  – Develop and approve environmentally rigorous carbon offset accounting standards & methodologies
  – Oversee independent verification by accredited entities
  – Review and register GHG emissions reduction projects, including issuance of serialized offsets
Incentivize more rapid uptake of efficient agricultural techniques

Ensure environmental integrity of agriculture and land use offsets

Attractive features of agriculture and land use offsets to buyers
  - Conservation benefits
  - Food security benefits
  - Engage diverse population in climate change mitigation activities
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>ACR Status</th>
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<tr>
<td>N₂O Emission Reductions through Changes in Fertilizer Management</td>
<td>Winrock, Applied Geosolutions, Terra Global Capital</td>
<td>v2.0 approved Jan 2014</td>
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<tr>
<td>N₂O Emission Reductions through Reduced Use of Fertilizer on Agricultural Crops</td>
<td>Michigan State University, EPRI</td>
<td>Approved July 2012</td>
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<tr>
<td>Avoided Conversion of Grasslands &amp; Shrublands to Crop Production</td>
<td>Ducks Unlimited, TNC, Climate Trust, EDF, Terra Global Capital</td>
<td>Approved Oct 2013</td>
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<td>Grazing Land &amp; Livestock Management</td>
<td>Winrock</td>
<td>Approved Sept 2014</td>
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<td>Compost Additions to Grazed Grasslands</td>
<td>EDF, UC Berkeley, Terra Global Capital</td>
<td>Approved Oct 2014</td>
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<td>Reduced Carbon Intensity of Fed Cattle</td>
<td>BIGGS / Prasino Group</td>
<td>Peer review</td>
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<td>California Wetland Restoration and Deltaic Rice Conversion</td>
<td>HydroFocus, Tierra Resources, Delta Conservancy, Coastal Conservancy, Winrock/ACR</td>
<td>In development... approval process begins 2015</td>
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Compost Additions to Grazed Grassland

- Approved October 2014
- Quantification framework for emissions reductions from
  - avoiding anaerobic decomposition of organic material used in compost production (optional)
  - directly increasing soil organic carbon (SOC) content by applying compost to grazed fields
  - indirectly increasing SOC sequestration through enhanced plant growth in amended fields.
Compost Additions to Grazed Grassland

- Supported by research conducted by the Marin Carbon Project and the University of California, Berkeley
- A one-time application of compost can sequester between 1 and 5 metric tons CO$_2$e/acre/yr.
- Developed by Terra Global Capital under a CIG to EDF

*It has the potential to reduce emissions of carbon dioxide by 28 million metric tons per year if compost can be applied to just 5 percent of CA’s rangelands*
California Wetland Restoration and Rice Conversion

- Accretion and carbon accumulation on peat soils in the delta and Suisun Marsh – wetland restoration and management
- Carbon sequestration – hydrologic management, wetland creation
- Avoidance of organic soil oxidation - conversion from row crops to rice
Delta and Coastal Wetland Monitoring
Delta Rice Cultivation

- Rice cultivation can stop or greatly reduce subsidence and carbon loss
- Yields comparable with Sacramento Valley
- Benefit for land and water birds, water quality

Jaclyn A. Hatala*, Matteo Detto, Oliver Sonnentag, Steven J. Deverel, Joseph Verfaillie, Dennis D. Baldocchi, 2012, Greenhouse gas (CO2, CH4, H2O) fluxes from drained and flooded agricultural peatlands in the Sacramento-San Joaquin Delta, Agriculture, Ecosystems and Environment, 150,1-18
Avoided Conversion of Grassland and Shrubland - ACoGS

- Accounts for emissions avoided from preventing the conversion of grasslands and shrublands to commodity crop production
- Baseline – conversion agent
Ducks Unlimited Project – Prairie Pothole Region

- Perpetual grassland easements in 15 counties across Coteau Region of North Dakota
- First ever GHG Emission Reduction Credits from ACoGs issued October 2014 – 5 vintages
Further Information

Jessica Orrego
Director of Forestry, American Carbon Registry
jorrego@winrock.org
www.americancarbonregistry.org