

C-AGG Meeting Summary

Tuesday-Wednesday, March 4-5, 2014

Hyatt Regency Sacramento

Sacramento, CA – USA

Executive Summary

The meeting provided an opportunity to take stock of successes achieved in the agricultural greenhouse gas (GHG) mitigation arena. In particular, the USDA GHG Conservation Innovation Grant (CIG) projects, which have collaborated through and with C-AGG since inception, provided an opportunity to road-test market-based agricultural offset activities and methodologies and for C-AGG and USDA to capture the successes, challenges, and future needs for continued momentum in GHG mitigation programs and incentives for the agricultural sector. Participants discussed current shifts in agriculture, in the general public's understanding of agriculture and its operations, and private market-based shifts impacting the sector, including sustainable supply chain initiatives. Participants also assessed future landscapes and ways to maintain progress and momentum in agricultural GHG mitigation activities and opportunities, including systems-based approaches that account for multiple ecological impacts of agriculture, and how to monetize and/or derive additional income generation opportunities for the agricultural sector based on the delivery of societal goods and services. A robust discussion on environmental credit stacking provided significant discussion points and greater understanding of the required technical and legal underpinnings of credible, viable, credit stacking scenarios, and concluded that a functioning framework for stacking is still lacking, but that, as for carbon, we can learn by doing, and by road-testing opportunities in this arena.

The CA Air Resources Board (ARB) provided an update on the CA Scoping Plan, which focuses on the State's next phase of GHG emissions reduction activities, aiming to reduce emissions 80% by 2050. The potential avenues for achieving these emissions reductions will include a combination of regulations, incentives, and public-private partnerships focused on all aspects of CA's economy and all sectors, including land use and agriculture. The Scoping Plan recommends targets for emissions reductions, and is currently undergoing a public comment period prior to finalization. ARB also provided an update on the Rice Cultivation Offset Protocol being drafted and considered for adoption, which, if adopted by ARB's Board, could take effect as soon as January 2015.

C-AGG participants continued a robust discussion on verification and aggregation recommendations for agricultural offset protocols, with an eye towards ARB's work on the Rice Cultivation Protocol. C-AGG's aggregation proposal and white paper were discussed, including issues relative to verification requirements with heterogeneous baselines, and frequency of verification and of site visits to individual farms and/or fields. The question of whether all farms within a project are credited together and are dependent on the success of all others continued to be debated. An update from the voluntary carbon registries showed that many protocols have been developed relevant to agricultural GHG mitigation opportunities, and that progress towards combining methodologies or activities is on the minds of registries, as well as other C-AGG participants.

USDA provided relevant updates on GHG mitigation and adaptation activities underway at the USDA Climate Change Program Office (CCPO) and at the Natural Resources Conservation Service (NRCS). USDA's CCPO provided an update on its report on methods for estimating GHG emissions and carbon sinks at the farm, ranch, and forest, and thanked C-AGG for providing extensive and insightful written

comments submitted during the public comment period, pointing also to the written response provided to C-AGG by USDA Under Secretary for Natural Resources & Environment Robert Bonnie, and Chief Economist Joseph Glauber (see C-AGG's submission at: http://c-agg.org/cm_vault/files/docs/C-AGG_Comments_on_USDA_GHG_Quantification_Methods_11-13.pdf). In particular, USDA intends to merge the COMET-Farm Tool and the new Quantification Tool into one user-friendly tool within the COMET "brand," which will likely be called COMET-USDA. An update on the recently announced USDA Regional Climate Hubs was also provided, revealing 7 regional hubs and 4 sub-hubs, whose purpose is to stimulation cooperation and collaboration and service delivery on climate change mitigation and adaptation to private land managers on a regional basis/level.

Representatives of The Climate Trust and the Delta Institute provided an overview of a successful GHG CIG project on nutrient management that is transacting the successful sale of carbon credits on the voluntary carbon market, and pointed to C-AGG as the place where the project partners met and came together, and were able to work together to successfully develop and implement the project. Despite the GHG CIG projects officially ending in July, 2014, this project (like some others) will continue in the form or a larger dedicated program aiming to incorporate agricultural producers from at least 10 states.

On day two, the meeting began with an update of the California Greenhouse Gas Reduction Exchange being implemented by the California Air Pollution Control Officers Association (CAPCOA GHG Rx). The Exchange encourages GHG mitigation projects at the local level within CA, and the platform for the exchange was recently revealed on the Exchanges new website, at: <http://www.placer.ca.gov/~media/apc/documents/GHG/Jan2014CAPCOAGHGRxannouncementFlier.pdf> Seven CA Air Districts are currently participating in the Exchange, and several others are in the process of joining. Local air districts will evaluate individual offset projects and methodologies submitted to them, and will approve them for use after a 30-day public review period. For at least the first 8 months, the Exchange will be operated via a central platform operated by a system administrator (one of the Air Districts); CAPCOA will reassess operational issues after that timeframe. Projects must occur after the adoption date of AB32 to qualify for approval and use; additional information on project criteria is found within the GHG Rx Quality Criteria Guidance Document. C-AGG participants expressed interest in learning more about the Exchange and following progress with implementation, and presenters encouraged all C-AGG participants and the public to submit comments and suggestions on how to improve the Exchange, and welcomed ongoing collaboration and interactions with C-AGG.

Finally, C-AGG participants discussed a common theme of many past meetings: the significant overlap between water quality and GHG in many agricultural GHG mitigation activities – with nutrient efficiency strategies a particular opportunity -- and how to pursue future project-based activities that combine and or stack credits from these overlapping ecosystem services. The discussion included suggested partners to pair with on both the supply and the buy side. Sustainably supply chain initiatives offer particular opportunities to collaborate and to pursue landscape level systems, but there was recognition that we must engage growers more in the discussion, and show the efficacy of these opportunities at the field level, via demonstration projects, which can help to road-test the concept and develop a feasible framework on credit stacking. Discussion included where to build some of these projects, and a suggestion that a tools panel be convened to identify barriers, gaps, and needs to build the infrastructure and the projects.

Tuesday, March 4, 2014

Welcome and Introductions: C-AGG Overview and Background

Debbie Reed, C-AGG Executive Director, discussed the major themes and goals of the meeting, which included taking stock of successes and challenges in agricultural offset development within operating carbon markets, including the CA compliance market; and looking to the future, and how to build on successes and expand efforts to include additional beneficial ecological impacts of agriculture – such as efficient nutrient utilization, water quality, biodiversity, etc.

Assessing the Landscape: A C-AGG Discussion of Critical Issues and Trends in Agriculture and Climate Change

C-AGG participants shared observations and current issues in the agricultural landscape relative to C-AGG goals and objectives. Topical issues discussed included upcoming EPA regulations relative to power generation facilities and the possibility that within the regulations, offsets might be available to the sector to meet compliance obligations, which could present a new source of demand side (buyers) for agricultural offsets. International activities in the GHG and Ag offset space were mentioned, and it was observed that C-AGG is helping to pave the way for progress in this area in other countries. Sustainable supply chain initiatives remain a source of collaborative opportunity for C-AGG, and increased public focus on food production and sustainability, including potential inclusion of sustainability indicators in the next version of the US Department of Agriculture’s Dietary Guidelines, continue to raise the profile of these issues. The relationship of soil carbon and water, particularly in the West where drought is having a significant impact on the agricultural sector, was mentioned, as was the trend toward more local sourcing of food.

The Legal Status of Environmental Credit Stacking

Royal C. Gardner, Director of the Institute for Biodiversity Law and Policy at Stetson University College of Law, reviewed a paper he co-authored with of the Electric Power Research Institute’s (EPRI) Jessica Fox, entitled [*The Legal Status of Environmental Credit Stacking*](#) (Ecology Law Quarterly). The article provides background on environmental markets, credit stacking scenarios and theories, and considerations for a credit stacking protocol, and offers six considerations to strike a balance between the public interest in environmental mitigation and the credit producers’ personal interest in financial return. Gardner reviewed several credit stacking experiences that included wetlands mitigation and water quality, species conservation and preservation (including endangered species), emphasizing that drivers of action are important to understand, particularly from a legal/regulatory/trading perspective, and that the future of credit stacking infrastructure development will continue to be an iterative process as science changes and our understanding of how and when it is appropriate and possible to stack and/or unbundles credits in the marketplace. Six considerations or conclusions offered included the following: (1) accounting units for environment credits are more defined with carbon and water (and are thus a good starting point); (2) stacking should not result in habitat loss; (3) regulatory agencies need resources to engage in and assist and monitor market-based transactions, so funding is important; (4) transparency is essential; (5) keep focused on long-term impacts and implementation; and (6) tests for additionality are essential. The bottom line, according to Garner, is that scientific credibility is required for quality credits to be generated.

CA Air Resources Board (ARB) Program Updates

- **CA AB32 Scoping Plan**

Dave Mallory, Manager, Climate Change Policy Section

Climate Change Program Planning & Management Branch

Dave provided an overview of ARB's requirements to provide a scoping plan and an update, and reviewed progress on the most recent plan draft (a link to the draft **CA AB32 2013 Scoping Plan Update**, released February 2014, is at:

http://www.arb.ca.gov/cc/scopingplan/2013_update/draft_proposed_first_update.pdf). With regard to the agricultural sector, ARB indicated that studies show that there are significant GHG benefits to keeping farmland from being converted to non-agricultural uses, and that, despite being an uncapped sector, future emissions reductions scenarios will look to the sector to help achieve as many emission reductions as possible and necessary to meet aggressive long-term targets of an 80% reduction in GHG emissions statewide by 2050. ARB did indicate that tools will be necessary to provide decision support systems to the agricultural sector to achieve this goal, and that they aim to create these tools with the CA Department of Food and Agriculture.

- **Rice Cultivation Offset Protocol**

Greg Mayeur, Manager of Program Operation Section,

Climate Change Program Evaluation Branch

Stationary Source Division

Greg provided an update on the status of the draft Rice Cultivation Offset Protocol, including that an ARB workshop on the first (yet-to-be-released) draft of the Protocol is scheduled for March 17th, and that, pending Board approval of the Protocol, it may be approved and in use as early as January 2015. ARB plans to hold trainings on the Protocol after Board approval.

C-AGG Verification Recommendations for Agricultural Offsets

C-AGG participants continued to discuss the C-AGG proposal on aggregation and verification for agricultural offsets, including many details of how verification would work. For instance, how will a verification report differentiate between systemic error and isolated errors, and what will be the impact on the overall project? Distinctions between verification requirements for projects versus for farms and fields were discussed, as was the continued need to balance integrity and costs. Issues of project development and engagement from the viewpoint of farmers continued to be discussed and debated, with the role of project developers and project aggregators as a necessary interface for the agricultural community to participate in the CA compliance market a recurring refrain of C-AGG participants. Aggregation and risk-based and scientifically random sampling requirements for verification of agricultural projects at scale continued to be discussed as a relevant avenue for agricultural offset projects; but distinctions remained regarding whether aggregated projects would be viewed by ARB as single projects which risk invalidation if a single farm or field, among many, is found to have issues. All agreed to continue discussing approaches to make offsets work for the agricultural sector in a manner that meets ARBs requirements and regulatory needs.

Voluntary Carbon Registry Updates

Teresa Lang of the Climate Action Reserve (CAR) provided an update on current CAR Protocols, including:

- Livestock Protocol
 - In effect 1/13 (for use in voluntary market)

- Vintages 05–14: at issue are credits (CRTs) that were listed prior to latest protocol; these must undergo regulatory verification to become ARBOCs (Air Resource Board Offset Credits). Goal is for all CRTs to be converted to ARBOCs.
- Organic Waste Digestion
 - In effect 1/14
- Organic Waste Composting
 - In effect 6/13
- Nitrogen Management
 - Not moving forward with this one at this time
 - Didn't get expected California corn data set; only had Colorado corn data set to work with
 - Will pick back up in Spring 2015, when CA corn data expected to be released
 - Still uncertain of its applicability with only two, fairly disparate, data sets available
- Rice Cultivation
 - In effect 6/13 (for use in voluntary market)
 - Sees no real demand in voluntary market for rice cultivation credits because the price point is so low (low of \$1-2/ton to high of \$4-5/ton)
- Future Grassland Protocol
 - Issue Paper out 12/12
 - Peat Brief already out as well

Kyle Hemes of Winrock International's American Carbon Registry (ACR) referenced 9 agricultural methodologies published by ACR, including:

- Improved Forest Management
- Avoiding Planned Deforestation
- Switch from Non-Renewable Biomass for Thermal
- Nitrogen Emission Reduction
 - Through changes in fertilizer management
 - Through reduced fertilizer use
- Emission Reductions in Rice Management
- Avoided Conversion of Grasslands and Shrublands
 - In partnership with Ducks Unlimited, covering 13,000 acres of prairie potholes in North Dakota
- Grazing Land and Livestock Management
 - Final publication, late Spring 2014
- Reduced Carbon Intensity in Fed Cattle

Perspectives and Lessons Learned from Agricultural Offset Project Contracts and Transactions

Sheldon Zakreski of The Climate Trust and Ryan Anderson of The Delta Institute discussed successes and challenges of their GHG CIG project, focused on a nitrogen reduction credit program in Michigan, in which the Delta Institute partnered with Michigan State to develop a protocol applicable to the north-central region, which is a region of 12 states that produces 80% of US corn. Based on the success of the project, the Delta Institute is partnering with other groups to expand the project into a stand-alone program (see early website for the program, at www.deltanitrogen.org). The Climate Trust has contracted for all the credits Delta is producing out of the initial project.

Wednesday, March 5, 2014

CAPCOA GHG Rx: The California Greenhouse Gas Reduction Exchange

Barbara Lee of the Northern Sonoma County Air Pollution Control District, and Jill Whynot of the South Coast Air Quality Management District, both members of the California Air Pollution Control Officers Association (CAPCOA), presented on the CAPCOA GHG Rx. CAPCOA's exchange was preceded by several reports written between 2008-10, including: (1) a 2008 document on CEQA and Climate Change; (2) a 2009 document on Model Policies for GHG in CA; and (3) a 2010 report on Quantifying GHG Mitigation Measures (which is 450 pages long). In February 2011 CAPCOA released the CA Emissions Indicator Model (CalEEMod), which is a free statewide land use emissions model for quantifying direct and indirect pollutants and GHG emissions from construction and operations involving various land uses. The GHG Rx (website: www.ghgrx.org) Platform has three elements:

- 1: Full, searchable database of offset credit projects , searchable by a variety of fields
 - listing of prices is voluntary
- 2: Bulletin Board
 - link between buyers and sellers, touted as a “dating website” type application (someone in the audience suggested *e-Carbony*)
- 3: funding opportunities listing
 - The product is aimed towards those who are developing projects
 - 7 of 35 Air Control Districts are currently participating
 - Existing protocols include the following:
 - Organic Waste (livestock)
 - 3 Forestry protocols
 - Boiler efficiency
 - Biomass to energy

Steps to approval of a project or protocol were listed as follows:

- Submit a project to local air district; if your local air district is not participating in the GHG Rx, contact CAPCOA directly;
- Local air district will review the information and data submitted, conduct a site visit, and prepare a validation report;
- The air district will issue some form of a legally binding instrument with regards to the project/protocol;
- Resulting project credits will be listed, with each project assigned a unique project number and unique credit serial numbers; and
- CAPCOA will track credits (though not engage in the sale or trading of credits).

There was much discussion following the presentation, though at this stage of development, CAPCOA is unable to describe the size of the market, or potential costs/prices involved. The exchange only offers opportunities for sellers and buyers to find each other – credits are not offered or purchased on or through the exchange itself. Each district determines the costs for a protocol or project type to be verified, with CAPCOA requiring only that each district keep costs low, and commit only to covering their own costs through any required fees. Some districts are providing review services at no cost, though this may change in the future. All project verification activities are currently being handled in-house by air districts, which the speakers indicated was their means of quality control.

Update from USDA on Relevant GHG and Environmental Services Activities:

- **Status of USDA GHG Methodologies Report**
- **USDA Regional Climate Change Hubs**

- **NRCS Update**

Marlen Eve of USDA's Office of Global Change Programs (OGCP) described USDA's Global Change Task Force, which includes representatives of 16-20 agencies, and which meets once per month at USDA. Eve also mentioned two new relevant USDA reports – one on GHG Mitigation, which he will circulate to C-AGG; and one in progress, on global food security issues. USDA's GHG Quantification Methods report will be finalized and published in time to share at C-AGG's Denver meeting in July. The methods in the report share an 85% overlap with COMET-Farm, so USDA intends for COMET-Farm to become consistent with the report and methods, in a new tool to be called COMET-USDA. USDA's new Regional Hubs for Risk Adaptation and Mitigation to Climate Change are now moving into the implementation phase, and USDA's vision is for the hubs to help maintain and strengthen agricultural production and natural resources under increased climate and environmental change and variability. The hubs will provide technical support, assessment and information, and outreach and education at the local and regional level, with a goal to coordinating outreach and information dissemination efforts with other federal agencies, such as the Fish and Wildlife Service (FWS), the US Geological Survey (USGS), and the National Oceanic and Atmospheric Agency (NOAA). The hubs will spend from February through December 2014 assessing regional vulnerabilities to climate and weather variability; establishing work plans working with partners and stakeholders to assess needs and capabilities; and establishing a website presence.

Teeing Up a Demonstration Project to Test a Water Quality & Carbon Project Protocol: Partners, Financing, Next Steps

C-AGG participants discussed the desire to pursue future agricultural project-based activities that combine and or stack credits from overlapping ecosystem services, including the two identified as most "ready" for market-based opportunities: water quality and carbon. It was agreed that terminology with respect to nitrogen in particular is important, and that the language 'reductions in offsite active nitrogen' is preferred when discussing nitrogen management. Suggested partners to pair with on both the supply and the buy side included: the Field to Market Alliance for Sustainable Agriculture, which recently hired a new President (Rod Snyder); the Leadership for Midwestern Watersheds initiative, which is already working on pollutant reduction and water quality stacking issues; the American Farmland Trust; the Freshwater Trust (which has a focus on stacking N₂O and water quality credits); Bobby Cochran at the Willamette Partnership (<http://willamettepartnership.org/about/board-of-directors-and-staff>), which has a unique approach to stacking; municipal water supply companies and treatment plants (there was some discussion of a phosphorous trading program being implemented in Wisconsin, by the Milwaukee Water/Sewer Department, which may involve or allow for "in lieu fees" being collected by the county to go towards local land management departments to help implement the trading program); corporations with sustainability programs and initiatives, including from the soft drink industry; the Food Marketing Institute; the Consumer Goods Forum; and, of course, farmers and agricultural producers. Sustainably supply chain initiatives offer particular opportunities to collaborate and to pursue landscape level systems, particularly where future gaps or problems with supply from commodities or natural resources are identified. Discussion included where to build some of these projects, including the possibility of building on some of the existing projects and initiatives, such as the Ohio River Basin Water Quality Initiative. There was a suggestion that C-AGG convene a tools panel to identify barriers, gaps, and needs to build the necessary infrastructure to support implementation of some combined water quality and carbon credit projects. Interested individuals and groups were invited to continue the discussion after the meeting, and to suggest avenues and project development ideas to Debbie at C-AGG.