C-AGG Meeting Summary
Wednesday-Thursday, November 7-8, 2012
Dupont Circle Hotel – Washington, D.C.

This is a summary of the proceedings from the November 2012 meeting of the Coalition on Agricultural Greenhouse Gases (C-AGG).

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Key Actions and Information

- The next C-AGG meeting is Thursday, March 7 and Friday, March 8, 2013 in Sacramento, CA
- A draft summary of C-AGG recommendation to the California Air Resources Board (ARB) on verification of agricultural offsets, as developed during this meeting, will be circulated to C-AGG stakeholders for further comment and refinement.

http://www.c-agg.org
Welcome and Introductions, C-AGG Background, Meeting Overview
Debbie Reed, Executive Director of C-AGG, welcomed participants and gave a brief overview of C-AGG. The objectives of this C-AGG meeting were:

- To assess the political landscape and align with potential opportunities for future developments and activities to incentivize agricultural sector mitigation of greenhouse gases;
- To assess carbon offset verification approaches and program requirements relative to agricultural offset protocol development, and develop concrete C-AGG recommendations for verification approaches; and
- To brief relevant US administrative branch agencies (including USDA, USEPA, and others) and legislative staff on C-AGG progress and activities.

Assessing the Political Landscape: An Early Read of the Post-Election Tea Leaves, and Possible New Opportunities for C-AGG
Bruce Knight, principal and founder of Strategic Conservation Solutions, and former Under Secretary for Marketing and Regulatory Programs at the U.S. Department of Agriculture, provided an insider ‘quick-read’ on the results of the 2012 election and what it might mean for C-AGG. Bruce shared these observations with the attendees:

- This is a unique time to visit DC. Politics is our home team and we take it very seriously. We gather together in homes and restaurants to enjoy the results—definitely not something to take in alone.

The Basic Results

- The president won both the popular vote and the Electoral College 332-206.
- This election was all about turnout; the president won key demographics: gender (women) and the minority and youth vote.
- On the environment it appeared that the President offered no clear strategy or message, which is important to as it pertains to future action on climate change.

The Administration—What’s Ahead?

- Cabinet (and subcabinet) officers often change at end of the first term; these jobs have high burnout and turnover rates. Implications for environment and climate change are unclear right now.
- We will see a shift from a first to second term philosophy. What is unknown is whether the Administration will shift to the left or to the center. Historically, a shift to Center occurs as second-term presidents thank about long-term legacy. What will be his legacy on conservation, environment, and climate change?
- The President’s relationship with Congress, states and governors will determine how well the Administration is able to accomplish its goals.
• Is there a mandate? The President won more decisively than many expected, and with time, the election is likely to be interpreted by the Administration as something akin to a mandate. That is natural occurrence with every administration in a second term.

Other Races
• In gubernatorial races it looks like we will have 20 Republicans, 18 Democrats and 2 unknown; the question is do these checks and balances lead to good government or gridlock.
• In the Senate it looks like 53 Democrats, 2 Independents, 45 Republicans; the key point is that Republicans were assuming two months ago they would have a majority in Senate.
• In the House of Representatives it looks like we will seat 233 Republicans, 200 Democrats, with 2 seats still undecided. This means no major change in makeup. The question is who are the freshmen; there will be new faces that will be important to farm bill, climate change, and environmental issues.
• The real question is who will be calling the shots? In recent years Washington has become markedly polarized. The election did not change this, which is one of the most significant take-aways from yesterday.
• So what does divided government mean? More compromise or less? That is the unknown.

Issues to Watch
• Farm Bill: timing, cost, and scope. Though tough to predict, this year’s election may have increased the likelihood of lame duck action. The quicker the Farm Bill passes, the less deep the cuts.
• Climate Change: How much did you hear about climate change in the election? There is no meaningful change to be expected there.
• Environmental markets: This is one of the most significant things from the lack of change in administration. These markets got sidelined for two plus years and are now being embraced by President Obama. If Romney had won these markets would have been sidelined.
• QUESTION: If you are going to push resources at this issue, wouldn’t it be better spent on physical mitigation like levees?
  o ANSWER: This is an important point. When you get a debate on adaptation, you move people from the polarizing issue of the causes of climate change and into what we can do to address weather events. In that aspect you have moved the agenda.

Climate Change and the Election
• No harm was done: no one promoting these issues, but then no one was opposed.
• Political polarization worsened, which is significant. It has taken a couple of years to get where we can safely have a science-based discussion. This is a safe zone right now. Science will need to carry the issue.
**QUESTION**: Is science way to carry the issue? Adaptation might be easier because it leads to investment and infrastructure. Science is polarizing.

- ANSWER: It depends on which science you are using. The science around resilience, adaptation, protocols, and verification is solid ground. Resilience is a good example: how you put breeding into place and improve soil quality, increase drought tolerance, and infiltration.

**COMMENT**: This points to importance of Farm Bill conservation programs. Land now in conservation will be put into production, which can have negative outcomes.

- RESPONSE: Absolutely. Remember, to move the Farm Bill it has to be part of a budget package and must show cost savings. One of major areas to cut will be conservation. Do not expect major reductions in crop insurance. Elimination of direct payments may happen, but some of this will be recaptured in shallow loss payment programs and the remainder will be from conservation. Conservation Reserve Program (CRP) is very positive for climate change, but no one is willing to give CRP credit. Can the environmental community prioritize the land coming out of CRP? We need an answer to that question. Look at market place, land is coming out, and the government can’t outbid the market. A lot of good land that shouldn’t have been in CRP can come out without serious impact.

**Fiscal Cliff**

- This is the toughest issue facing the country and this generation of politicians. They have replaced the poison pill of across the board sequestration. There are sequestration, tax cuts, tax credits, and extenders all expiring at same time. No one can say going over fiscal cliff won’t cost economy. They have to find a way out of this. Can they do in lame duck, or will it be first couple months of next year? It has to happen, and is the driver of moving the Farm Bill forward. The deficit fight will mark the next term, and will be the legacy issue of the administration.

- QUESTION: What is sequestration cut-off date?

  - ANSWER: January 2, 2013. Direct payment will have impact on the USDA agencies, and sequestration uncertainty is going to have a huge impact on their operations.

- COMMENT: My fear is that only reason the House moves the Farm Bill is to use it as an offset to strip conservation and pay for other things. Soils may withstand another drought, particularly if conservation funding takes a big hit. It speaks to the importance of looking at environmental markets. This is the only place where agriculture has some incentive. From our perspective (C-AGG’s) this is an important concern.

  - RESPONSE: I’m in agreement conservation programs will get stripped. Best thing you could have happen is a reasoned discussion on SNAP reform. No one wants to touch it, but otherwise you’re headed for greater conservation cuts. With $1 billion plus in money for conservation, you can’t meet the demand for conservation services, but will need environmental markets to cover this gap.
Conclusion

- Someone won, someone lost, but can anyone govern? Climate change ranks low either way.
- Looking ahead, two climate change approaches that are potential revenue generators, carbon tax and cap and trade, are both politically unviable. So what is the risk to agriculture and the Farm Bill? Losses to CIG or to the Climate Change Program Office? Their budget is still almost nothing, though it has quadrupled over last 4 years. The real risk is in across-the-board reductions.
- The action may be in state government incubators. So much is riding on CA. If the CA market is successful climate change mitigation can move forward. The ability to put trading into climate change would change everything.

Verification and the Agricultural Sector: Principles, Issues, and Examples

John Kadyszewski, C-AGG Steering Committee member, presented an overview of verification and the agricultural sector to kick off C-AGG’s deliberations on what recommendations to make to the California Air Resources Board and others on best policy and practice for sound verification of agricultural GHG offsets.

Verification is familiar to agriculture stakeholders. The Ag community already participates in a whole set of measurement and verification processes. Some examples of typical ag measurement/verification systems include:

- Commodity markets
- Certification programs: some mandatory (e.g. Forest Stewardship Council) some voluntary (e.g. USDA organic standards)
- Grading, both for safety and quality – e.g., beef standards
- Food safety: these kinds of systems present a challenge because of their multiplicity and conflicting requirements.

- Harmonizing data requirements around different markets is necessary for efficiency, but there is already a proliferation of requirements in the Ag marketplace.

Verification Issues
• Verification Issues:
  o **Cost**: Most frequently people think this is a tradeoff between what people spend and what they will get in return. You will have to spend some money sampling. That is where cost comes in. If you spend more, confidence may increase, but what is the minimum you must spend? (Many other things could be added to chart).
  o Legal assurance: Why do people want it? There are clear prescriptions and consequences for doing certain things. If you are in CA ARB market you are trying to assure your credits won’t be valued back or withdrawn, and instead of having to wait eight years they will be legally validated in three years. There are associated costs, but certain actions produce a value. Legal assurances are important.
  o Integrity: Voluntary markets reflect different buyer interests, including corporate social responsibility and PR.
  o Risk: Financial transactability is important. What is the risk I will lose value?

• Verification Principles: Materiality
  o There are three components to ensuring precision: accuracy, completeness, and consistency. Independent third party review or verification is not an absolute, but the most successful systems incorporate it.

• Verification Requirements:
  o Requirements exist at two primary levels – the program level and the methodology level. In CA, ARB sets program level requirements.
  o CDM guidelines on materiality are based on project size. They define small and micro scale; a third level is sectoral, which distinguishes between program and activity requirements, with very prescribed, clear rules.

• ARB verification requirements vary by project type
  o Non-Sequestration v. sequestration projects, where non-sequestration means emission avoidance

• The core issue: data collection and documentation. How do assure buyers and regulators you have reduced emissions as claimed? You must:
  o Establish project boundaries
  o Examine the data collection process
  o Review calculation methods

• How much must you measure, and what don’t you have to measure?
  o Can we avoid burdening the process with requirements that aren’t likely to produce great resolution? How do you define minimal requirements?
  o Look at process: what data is captured when? How often do you calibrate instruments?
  o Verifiers prefer very specific guidance; take out the guesswork.

• ARB livestock protocol is one of only 4 approved protocols.
  o Projects must compare modeled v. measured methane projections.
  o Livestock Biogas Measurement Instrumentation: The protocol provides specifics on what must be measured. For instance, someone must certify instrument is calibrated
and working properly. If it has drifted, there is a whole appendix that describes what you have to do to account for missing data. If it’s more than a week of missing data, you become ineligible. The protocol even specifies how to do calculations and take measurements, e.g. readings taken every 15 minutes and recorded in a daily log.

- What increases confidence?
  - Transparency: a core principle.
  - Conservativeness: This is challenging for Ag projects, because while everyone might agree an activity produces a benefit, conservative quantification requirements might preclude a project from getting any credits.
  - Evidence: binary v. monitored. You can have projects with a high level of confidence with a binary check. What is the evidence? What is the source of data?

**Question & Answers**

**QUESTION:** Any thoughts about when to do site visits? Rice for example, do you visit when the field is flooded, or when you harvest?

**ANSWER:** It is hard to answer questions in general way because each question has to be answered in accordance with the individual methodologies. With rice, if you have evidence of flooding, do you have to visit every year? I would say no. Evidence such as a satellite photo, or a field mounted camera is just as reliable, and wouldn’t require a site visit. All of these issues are associated with logging data that verifiers will want to see. Will a scanned picture of a log book be adequate evidence? That is where you get into cost v. confidence. A requirement for 100% site visits will exclude certain projects and project types immediately.

**QUESTION:** One concern is that onerous verification requirements risk alienating rather than engaging the Ag industry. For example in CA, dairy producers who want to participate in carbon verification find it is really difficult to do. We can have the best data verification (requirements), but still lose many potentially interested players in the agriculture sector, particularly progressive producers. If we lose them we’ll lose the larger part of Ag sector, as well. What can we do to simplify verification and make it easier?

**ANSWER:** Draw on existing data collected. A risk we already see is entities with a market regulation focus not fully appreciating the natural indicators farmers use. There is a lot of information being collected on farms, and we know what the farmer is using and doing. The challenge is aggregation. How do you statistically stratify to aggregate farms that you know are doing what is right, and then develop measurement and verification systems that are effective? Regulators need input from this group to better understand what is applicable to agriculture, and what is not.

**QUESTION:** How do you deal with the time continuum for implementing change? With the regulatory and protocol approach we are trying to lock this down from day one, but this is a market under development, which means you may want to build data requirements over time. Is this possible?

**ANSWER:** We have not touched on timing. In most GHG markets, the project is approved for 10 years. Same answer- this is where regulators need input. We can create perfect verification and
eliminate all projects because of costs. Where are the right trade-offs with regards to the verification requirements?

COMMENT: ARB has indicated that they are observing how this works in the voluntary marketplace for lessons in a compliance market. It is important for us to point out what is happening and what is being learned in the voluntary marketplace, and the examples learned from the GHG CIGs can help frame the issue concretely.

COMMENT: The issue of additionality is a hangover from a European system that does not allow for necessary flexibility; this must be addressed.

Response: Many things that masquerade as measurement issues are really policy issues. C-AGG should help separate quantification vs. policy issues. Quantification trumps policy. The issue driving things in CA is making sure all tons credited are real and additional. We need to help regulators sort out real verification issues from the overall policy issue(s).

Verification Requirements for Agricultural Protocols—Brief Remarks from Voluntary GHG Registries

Teresa Lang, Climate Action Reserve (CAR), Carolyn Ching, Verified Carbon Standard (VCS), Nick Martin, American Carbon Registry (ACR)

In this section of the meeting, three representatives from carbon registries were asked to describe how their organizations approached verification.

Nick Martin, ACR

- Verification is defined as the systematic, independent, and documented process for the evaluation of a GHG assertion against specific criteria.
- Over time our approach to verification has become less prescriptive and gives more license to the verifier. There is flexibility there. We look at a continuum between “prescriptiveness” and flexibility.
- Let’s think about what is unique or not unique about Ag projects. We are trying to:
  - Verify something that didn’t happen
  - Verify something not (or no longer) directly observable or reproducible by the verifier
  - Verify application of an empirical or process-based model
  - Verify application of common practice baseline
  - Compare actual yields to proposed baseline yield (for leakage)
  - There is a heavy reliance on farmer records, with recourse to various independent data sources
  - Verify large aggregated projects where only a small percentage of fields are visited
• Clearly this are difficult challenges, but there are new techniques and data sources that can help:
  o Remote sensing is very helpful. In some cases remote sensing can verify more than onsite visits.
  o In-field sensors and probes for water and soil moisture are becoming less costly.
  o Precision Ag data is now recorded in logs on equipment. Management choices now tracked by GPS, which are hard to tamper with.
  o From the farmer’s perspective integrating verification with existing management systems could be a huge benefit.
  o Tapping into local expertise on common practices and adoption rates can link us to local verification resources.

• There are some important verification themes to keep in mind:
  o Reliance on farmer records is inevitable, which is not checking up on farmers for fraud, but finding ways to reduce burden on farmers by relying on other data sources and indicator data.
  o For aggregation, let’s not make the perfect the enemy of the good. A scheme that is very risk averse and leery of litigation will damn the whole agricultural system. We have to show that aggregation is both necessary and scientifically defensible. Through aggregation we both keep verification cost low and assure accuracy.

**Carolyn Ching, VCS**

Standardization is key to simplifying verification. We need to make distinctions between programmatic and methodological requirements. Programmatic requirements create the framework for how emissions are reduced and what is required. Formalized methodologies with specific, onerous requirements can be costly and reduce participation. Verification requirements in particular can make Ag projects not viable.

When methodologies are streamlined, for example, based on a simple binary condition (i.e. you did or did not flood the field), that can help to simplify verification requirements. This issue is also about what VCS would consider validations.

For example the VCS methodology for sustainable Ag land management was developed by the World Bank to see if more sustainable practices over large areas owned by small landholders were being adopted. The idea is that a lot of farmers in a large area, doing a lot of activities, can create a desired impact. But this situation is onerous for data collection at the farm level. So instead a survey is used to establish a baseline of practices. When the project is implemented all farmers are asked the same questions about the practices. The answers are yes or no, have you done it or not. That data is put into a carbon model to calculate GHG baselines and reductions.

Verification for the methodology shows whether the specified actions did or did not take place. Standardization can thus simplify verification, because you simplify things you need to do and to
monitor. California is standardizing. You don’t need to test for additionality because it is built in. This eliminates a whole step.

Under VCS we have an initiative on how to standardize methods, ways to streamline additionality, and a list of activities that will make your project additional so you won’t have to demonstrate additionality. A big key is to streamline data requirements and take advantage of information farmers are already collecting. We have seen with the Forest Stewardship Council that you can use the same data already collected and translate it to timber harvested and timber left behind. There is an opportunity here, as well, to utilize existing data and putting it into a methodology that makes sense.

**Teresa Lang, CAR**

- The purpose of verification is to provide an independent third party review of project data and information to ensure project eligibility per the relevant protocol and that reported emission reductions or removals meet the materiality threshold.
- Project verification is an iterative, risk-based activity in which the complexity of all project components are balanced and assessed in relation to one another using a verifier’s professional judgment. Verifier professional judgment is critical to a successful verification program.
- CAR strives to create transparent verification systems that allow buyers and regulators access and understanding.
- CAR Materiality thresholds vary by project, from 1% to 3% for larger projects, and up to 5% for smaller projects such as livestock and rice. We look at finding a balance between accuracy, conservatism, and practicality, and evaluate verification options against all three criteria.
- Conservativeness is critical for program integrity. In the case of rice straw end use emission factors, what happens when rice straw is removed from a field can be hard to track. If the farmer can document the ultimate fate of the rice straw, they can use the emission factor associated with that use. If not CAR assumes, conservatively, that 100% of the straw went to animal feed which has the highest associated emission factor.

**Spectrum of Verification Approaches and Programs: Relevance for Agricultural Protocols and Other Programmatic Approaches**

Jeff Hayward, Rainforest Alliance, Wiley Barbour, Camco Clean Energy, Adam Chambers, USDA NRCS

In this section of the meeting, three established experts in the field of verification, with experience in multiple settings and with various approaches, were asked about their experience with verification relative to agricultural and terrestrial projects. The panel specifically addressed the issue of site visits as a verification approach, and then engaged in an open dialogue with participants on verification approaches.
Wiley Barber, Camco Clean Energy

Wiley has worked on verification from different angles and portrayed various approaches. At a national level (e.g. national GHG inventories), there are a series of procedures and norms that countries go through to record data and there are procedures for ground truthing the data. In the verification processes overseen by the UN, there are distinct levels of activity:

1) Paper/desk reviews of all communication on GHG inventories.
2) Centralized/collaborative reviews. A panel of reviewers come together for a centralized review and will, for example, look at six countries at once. They will compare and see how approaches are different in the details.
3) In-depth country review. This involves site visits over a 1-week period.

Through these reviews, insight is gained in regards to the comparative robustness of each country's data, and into how outliers can in fact be normal behavior, for instance.

In the financial world, corporations report various metrics for their entire global organization, and a lot of effort goes into utilizing data already being collected for financial purposes. As a verifier that information is valuable and preferred. If you were worried about gaming, this financial data is subjected to many intensive sets of review processes, since companies rely on the accuracy of this data to manage operations. Once companies understand the importance of this data for multiple uses, they focus more on ensuring that it is accurate, high quality data.

For project verification, consider how the Bank of America might verify their carbon footprint. If a policy maker requested that every BOA branch be visited to measure its emissions it would not happen, because they know the data at each of their 10,000 facilities will be comparable on a per-unit basis. Electricity per square foot doesn’t change much, and you will not need to interview every branch manager to figure this out. Increased boots on the ground won’t improve the data.

In agriculture, there is clearly a huge diversity (of crops, of operations), but it is possible to narrow things down. When we are talking about N fertilizer usage in corn, for instance, things are more homogenous: there is only so many ways you can go about applying fertilizer. That is useful for us in understanding variability in the field. The real question is at what point we agree that we have enough data to confirm that a farmer is telling the truth.

Jeff Hayward, Rainforest Alliance

The Rainforest Alliance has extensive experience in sustainable agriculture. Globally, 15% of all bananas are now Rainforest Alliance certified. That is possible because The Rainforest Alliance aggregates small farmers to get them certified. Scalability of verification protocols is critical to being able to deal with (small) landholders in agricultural systems.

A similar case is Forest Stewardship Council (FSC) certification, now with 70 million hectares certified worldwide. The battleground issue again is how to get small landowners included in these programs.
Whether the program is sustainable agriculture or family forests you have to enable verifiers to do 2 fundamental things: (1) to group or aggregate like projects or management units (whether process-based, systems-based, or quality management-based); and (2) develop sampling protocols. There must be an ability to stratify sampling units to make verification cost-effective and practical. Sampling protocols must be based on scale (size, or size class), complexity (for example, the number of management variables) and risk-based measures.

Auditing is costly, and the only way to handle this practically is to allow for stratified sampling. Our sustainable Ag program uses sub-sampling, which is based on scale, the inherent risk of the project, complexity, how dispersed the farms are—all these factors are taken into consideration to create a sound sampling regime. Any protocol should have an embedded sampling regime to reduce time and cost and to make it something that can scale up to a wider number of management systems.

**Adam Chambers, NRCS**

NRCS can leverage producers and enhance farmer engagement. If producers have ‘skin in the game’—money, labor, land—where a practice is occurring, it is in the producer’s interest not to fudge the system. Conservation activities are undertaken to enhance the bottom line, by improving land. NRCS spot-checks about 5% of projects/operations to verify that practices have been undertaken. Spot-checks are random and conducted by a 3rd party. With this system, producers do not object to verification -- it is not on their short list of concerns.

**Group Dialogue**

**Question for Jeff Hayward.** There is concern at ARB that we use scientific approaches to verification. You are using risk-based analysis to decide where to do spot checks. Do you have a checklist of factors to consider when you develop sampling methodologies? We know, for example, the Census Bureau does stratified randomized sampling. Is this a similar case?

JEFF: The number of management units we check depends on the size of the units. A lot of farms or forest areas small in size require different sub-sampling than cases where the management units are larger. We use stratification, and approach the first audit with a higher level of sampling and in the next year or verification period use a reduced level of sampling, because as you get to know a project or project type, your confidence increases and you don’t need to spend as much time verifying. In forest management you look at factors including harvesting patterns, the addition of new management units (you want to allow new management units to come on in different time periods), and the size of units to develop your sampling approach. Verification requirements can and should vary over time.

WILEY: There are a number of ways you can verify. One approach is risk-based: make sure the auditors visit those sites most likely to have errors. We cannot go at this in a completely academic fashion. As has been pointed out, aggregation is necessary; individual farmers will not be able to participate in these programs, otherwise. So when we talk to policy makers, it has to be in the context of aggregation. Scale is also important: it is also true that you can’t treat aggregates of small
projects like aggregates of big projects. It is financially infeasible to have boots-on-the-ground site visits on every project (or field or operation), every year; you must stratify. Consider an approach with one site visit every 5-10 years, and other forms of verification in the intervening years.

WILEY: We have done 30 or 40 verifications on livestock projects. It is important to look at practicalities and put some numbers down. It costs $10,000-$15,000 to hire a verifier. Then there is internal time, travel costs, and other expenses. When you are done, it costs $25,000-$35,000 to verify a single project, and when you have a farm generating $500K to $600K a year, it just doesn’t make sense. You will not have a market to speak of. I appreciate verification is important but if you want to get it to work you have to look at practicality. At a remote site in Denver we had to fly out and stay in a hotel and we were there 15 minutes. If you want to see a farm, look at satellite pictures or a web cam, but a spot visit every year doesn’t make sense for small projects. Jeff talks about spot checks, checking 10, 20, 30% of farms is good for limiting verification costs. That is another aspect we need to look at. If there is fraud, we should come down hard on the project developer as opposed to the farmer. Right now we are taking 3-6 months to complete a single verification, which is far too long. We need to look at how to streamline verification to get it 1-2 months at most, and 10-20% of total project costs.

QUESTION: What can USDA do to better support monitoring, reporting, and verification (MRV) and with some of their existing data? When yield data is reported, can you make it available? Can information from crop insurance be accessed? How can USDA better support the standardized distribution of information? We should try to work together on that. The U.S. Energy Information Administration (EIA) makes standardized reports regularly available. Any USDA data that can be accessed to help confirm the accuracy of greenhouse gas assertions will be of value.

JEFF: The process of verification involves triangulation data. A lot of info can be provided by a data submitter and uploaded to website, but some percentage has to be checked on the ground as a matter of due diligence. Photos and satellite images can serve as a surrogate, but some level of site visits is necessary. A lot of information is gained by talking to farmers about their management practices, and confidence in the project and the system increases. Some information that cannot be conveyed electronically or via documentation will be shared

COMMENT: Look at the transition from voluntary to compliance markets, as occurred in Alberta. There is a currency (economic value) the system generates. A level of oversight is required, and verification can get really quite detailed, because compliance credits are tradable assets. At some point it has to be about standardization of data. Alberta made a shift from farmer attestation which was okay in the voluntary marketplace, but wasn’t robust enough for carbon markets. A farmer’s records can provide a lot of necessary information, but they may not be enough. A farmer must tell you what he/she did, and writing it down can be the challenge. Verification must be sound enough to create confidence in the currency the program creates.
COMMENT: Part of the issue here is the reality of how agriculture operates. We need to bring that realism to verification approaches. The Rainforest Alliance approach is based on experience; it has a scientific basis, and can reduce the burden without sacrificing accuracy, which is of great interest to ARB. We need to build case that aggregation is vital, and that stratified sampling for on-site verification can work. Can we make recommendations about how to aggregate, including how to verify at the aggregated level?

COMMENT: The type of auditing used with USDA’s CRP program (i.e., 5% spot checks) guarantees program level integrity as opposed to project level integrity. ARB is saying if a single ton from a single project is not additional it gets tossed out. Is program level verification something we want to recommend and address? Or are we talking about program level integrity v. what ARB is seeking, which is project level integrity.

RESPONSE: We should address both, i.e., how to ensure program level integrity that allows for aggregation of projects, and assurance of project level integrity.

Plenary Discussion of Verification Approaches and Programs: Identifying Criteria for Agricultural Protocols

In this section of the meeting, the participants discussed approaches to effective verification, and focused on developing recommendations for the California Air Resources Board. The discussion began with programmatic recommendations and moved to project level recommendations.

- The main takeaway of the Camco project case study was a $30,000+ cost to verify a 1,500 dairy cow project. If we were to look at a life cycle analysis of this project, it would not pencil out. In our discussions with ARB we need to think about life cycle analysis of verification processes, and containment of the overall GHG footprint of these projects, from start to finish.
- The end goal is to create a significant volume of offsets. The offsets must meet requirements for financial currency, be scalable, and meet rigor requirements. The system has to be usable by the farmer, and for compliance markets, has to evoke the same confidence we have in currency. Ag is constantly under pressure to do more with less. We need to look at verification from this view. Aggregation is essential to achieve volume and get a reasonable verification program.
- A valid concern is that GHG mitigation programs have developed for industrial pollution sources, and in isolation from the non-point source Ag community. We need an approach that fits the agricultural model. Regardless of how conservative you are, there is a mismatch with trying to account for biological systems with “to-the-penny” financial accounting.
- C-AGG’s role is to develop recommendations about what is good enough, and why. For example, with the rice protocol, we can recommend how and when satellite imagery can be used to verify activities on the ground. That is one specific recommendation. We might also look at the potential to use NRCS EQIP funds to test drive additional verification options and technologies, such as the use of sensors.
The take away from hearing these other examples is we need to draw parallels with other systems. How accurate are other verification systems? Can we think about it from other angles, tap on CPA networks to find out how accurate they are? There are plenty of examples where less than 100% accuracy is the standard. We should look at methodologies used for market clearance and trade commodities, for instance.

This is as much a policy issue as it is a scientific one. ARB is responding to this idea of 95% confidence in reaction to a lawsuit. The suit is questioning whether a single offset is challengeable. Once you cross that threshold, the issue is not about specific single projects, but about a level of assurance across the program.

C-AGG must clearly articulate and documentation recommendations and the justification for including them in the CA system, both for ARB and for their stakeholders. As policy makers ARB needs to document their policy and technical decisions. The more C-AGG can provide concrete recommendations, backed by examples and clear justification, the more convincing we will be.

Programmatic and verification approaches will need to find a way to account for other impacts, such as seasonality and weather changes that could reduce yields or cause crop failures.

Wal-Mart is working on a sustainable agriculture initiative that includes GHG footprints, and they are using a protocol that has been accepted by CAR and is ready for use now. ARB should adopt it.

Verification approaches used in Farm Bill conservation programs may not be exactly commensurate with compliance market offsets, but the approach, which addresses verification in terms of risk and includes a sampling methodology, is one that should be utilized.

Commodity markets use grading and certification and verification (e.g., Number Two yellow corn). The grain trade also has an arbitration clause/approach that resolves disputes or challenges.

In CA, while trying to get methane digesters approved, producers have encountered issues not just with verification, but also regulatory issues that ARB is aware of but has not resolved. If regulators look at digesters and other agricultural activities like they are smokestacks, we won’t develop successful projects for others to emulate.

**Continued dialogue on C-AGG recommendations:**
- One path forward is to separate 95% confidence from allocations of offsets to the project level. It is possible to look at a range of projects and convince ARB that, as a category, the aggregate has integrity according to measurements. Once you have that, it doesn’t matter how you allocate to farmers, because the system is whole. ARB will be open to these suggestions if the proper justifications are documented.
- In the big picture, offsets are needed to economically meet CA’s statewide GHG cap. But offsets will not be economical if verification costs are too high. We can meet the goals of AB32, but not necessary all the rules that are being established for verification. In California, each county has to have a GHG reduction, but these reductions do not have to be market grade. There will be a
demand at the county level for CEQA grade offsets. This represents a second tier of opportunities for agriculture. We do not have to shoehorn all Ag GHG reductions into ARB’s compliance offset model.

- **QUESTION**: When we talk about scale, are we talking about credits in CA or in the US?
- **ANSWER**: ARB has indicated a political need to have offsets created in the CA context first. But they are open to non-CA offsets. The issue is the ability for ARB to create and accept Ag protocols, and the subtext is they will have to work in CA first.
- We need to make an investment on the front side or back side in the data that allows us to track performance. In forestry, regional forest boundaries are used to establish a baseline, and then projects can proceed. This is true whether the baseline is CA only or US. Once a baseline is established, investment costs are reduced.
- Since a great deal of farm data is privately owned and held information, we must utilize state or county level data to model emissions and emissions reductions. GPS/GIS tools can help, but an independent, neutral/trusted party is needed to house and manage the private data in a way that makes it accessible for carbon market needs, including modelers. It takes time and a group to manage it.
- If aggregation is the only way to achieve project-level accuracy, then aggregators will be the ones assuming risk in the system.
- An additional risk exists around these projects, and that relates to the possibility of invalidation of credits. If a project is over-credited by more than 5% that is grounds for invalidation. Two other issues can trigger invalidation: double crediting and noncompliance with air, water, or ocean regulations/standards.
- ARB views offset credits as fungible (with allowances). This requires multiple levels of certainty. Each operator has to have 5% accuracy or greater, and ARB applies at the field level. They are not comfortable with multiple owners. They have to date not allowed aggregation within their protocols except aggregation under a single owner.
- Ag has always used aggregation in one way or another: consider agricultural cooperatives.
- **COMMENT**: It is important to remember that it doesn’t say in the regulations that aggregation is not permitted. The regulations say there must be site visits. We need to think a little more creatively about who owns fields v. project developers v. aggregators. When USDA verifies conservation program compliance, they use conservation district advisors, who are not verifiers, per se. They are able to do site visits near where they are based. This is a creative way to rethink verification in a way that would not create excessive costs that undermine the market.

**Break-Out Groups: CA Compliance Market: Making the Case for Agricultural Offsets, Devising C-AGG Recommendations on Verification Approaches**

Participants broke up into groups to develop specific recommendations for ARB. What follows are the report-backs from the groups. The points were captured on flip charts and became the basis of C-AGG’s recommendations. Top-level points are numbered and comments follow below each point.
1) Aggregation is preferable if not necessary, as it is intrinsic to Ag and it distributes benefits and risks over landscapes/areas/operators.
   a. Even with aggregation it might be hard to get to 95% confidence level.
   b. Aggregation is the only way to reduce uncertainty. Another nuance to consider is that at least one of the protocols being considered by ARB will be model based. To address the structural uncertainty of the model and make crediting conservative, discounting can be utilized. Discounting can also help to address the issue of conservativeness. Aggregation and structural uncertainty are thus related in protocols (where models are used).
   c. Enforceability is a key principle. If 20 farmers aggregate 20,000 credits it must be clear how ARB addresses and enforces non-compliance.

2) Verification protocols must be developed in such a way that they can be improved over time. As growers and ARB learn what works and what doesn't work, verification procedures can evolve. Technology is also evolving and can help reduce costs. Growers themselves will be the source for discovering new and better ways to verify.
   a. This is predicated on establishing an imperfect baseline and working our way up.
   b. Create a tiered system of offsets with different grades. Lower grade offsets have higher discounts and lower verification requirements. As learning takes place and enhancements are incorporated the protocol can move into the next highest tier. This approach recognizes and embraces the facets of learning curves and adoption curves with agricultural protocols. A tiered system could thus help increase adoption rates over time.

3) Transparency is needed in the application of discounts and the concept of conservativeness as it is applied to programs, protocols and methodologies, and they should be listed and documented in every instance.
   a. Built-in discounts need to be disclosed and explained, for transparency and to prevent the over-application of conservativeness, which can make projects unprofitable.
   b. Transparency will also document differences in different approaches that are being used, and potentially lead to standardization.
   c. The 5% materiality threshold is different from confidence levels. We might be conflating the issues in our discussions. We may want to consider recommendations to ARB about using different materiality thresholds for agriculture.

4) The use of local certifiers who have easier access to projects and valuable local knowledge of practices can reduce verification costs.
5) We should recommend the creation of standards and “triggers” for site visits that reduce the burden and cost to growers and provide acceptable levels of certainty.
   a. Consider alternatives to site visits: telephone interviews, documentation such as dated photos or satellites are potential alternatives. There could be established triggers within these data collection efforts that would require a site visit.
   b. Consider using remote sensing on 100% of sites, and site visit for 1%.
   c. We should recommend to ARB how prescriptive they are in verification requirements. Do we prefer that ARB is very prescriptive, or that they leave a lot of the verification requirements to verifiers?
   d. Consider how much data can be accumulated, and how. Interviews can provide the human interaction, that can be valuable, and site visits can provide another level of data. Establish an approach that provides accuracy without 100% site visits.
   e. You can follow common processes but it’s just a means to the end. You can use site visits, remote sensing, and/or data verification. What matters is the sampling process. We don’t necessarily want to be prescriptive on process, but we need to verify to get a statistically representative sample.

6) Deferred verification (for non-sequestration projects) does not resolve the issue for agriculture: it is not attractive to Ag, and it becomes even harder to verify.

7) ARB should conduct stakeholder discussion during the protocol development process

8) Verification should be included as part of each protocol, which is not the current approach used by ARB

9) To maximize engagement of farms in offset systems, farmers need trust in the safety and integrity of private data and the keepers of the data. A national data warehouse (hosting data from service providers, coops, crop advisors, conservation districts, retail fertilizer providers, etc), run by neutral parties or those trusted by the sector is necessary.

10) We must encourage the use of scientific data and measurements to back up activity-based data. Farm records and receipts can corroborate activities, and increase the accuracy of verification.

11) There is a hierarchy of data and we need to be aware of both drift in levels of confidence and level of risk with different types of data.

12) We must actively promote and build learning into the offset market and protocol development. To err on the conservative side, discounts should be utilized to start, and over time, as methodologies improve and uncertainty is decreased, discounts can be lessened appropriately. A feedback loop that allows and promotes improvements over time is beneficial.

Plenary Dialogue: ARB Approaches to Verification: The State of Play

In this final session of the day, the group stepped back to review its work in developing proposed guidance to ARB and test for consensus on each point. The comments of participants are captured
below. The session began with Debbie Reed reading back the flip charts that were created earlier in the day.

**Summary:** Climate change mitigation cannot be achieved or resolved unless and until we address GHG emissions associated with land use and agriculture. Agricultural production is not an option; achieving increased productivity coupled with reduced GHG emissions is. We do not have all the data that is needed to create air-tight agricultural offset protocols for compliance carbon markets, but we can use verification approaches as an opportunity to learn. We have to get buy-in from grower and producer organizations to see what their GHG footprint is; financial incentives (even if limited) and shared learning can promote producer engagement.

- **Concept of feedback loops and shared learning to enhance protocols:** If C-AGG promotes the adoption of protocols that improve over time, we must synch this with ARB’s goal of having a (complete) working program in 6 to 12 months. Iterative improvements to the program may require either modification to protocols, to regulations or to the enabling law, and each has pros and cons.
  - ARB has indicated that models embedded in protocols cannot be improved (nor revised versions of the protocols utilized) unless the protocol undergoes a new review process.
  - The regulations address how to incorporate certain types of changes, so that not everything would have to go through a regulatory comment period.
- **Tiered Systems Approaches:**
  - If tiered offset systems are desirable, we have to think outside of compliance offsets in a cap-and-trade system, which will not support this approach. Some activities and protocols may work in a compliance system, some may be viable in a voluntary system, and there are other potential opportunities, including CA CEQA grade offsets, and sustainable supply chain systems, though incentives in those systems are yet to be realized.
    - As an example, Napa County has mitigation rules impacting vineyard development. Developers must come up with “CEQA grade” GHG reductions. This is a market where agricultural offsets are viable now, but it’s a non-compliance market grade offset.
    - The tiered approach can also be viewed as a stepwise approach, with compliance offset markets having the highest grade, and requiring the most data and most robust verification. Others, such as voluntary market grade credits, might require less rigor, but with improvements over time, might be able to move up to the top tier, or compliance grade markets. In this way, different markets, including voluntary markets, can allow piloting and demonstration of protocols, and entry into compliance markets when they are ready.
It is clear that C-AGG should look at this tiered approach, but it does not constitute a recommendation to ARB. It is something C-AGG should work on in parallel.

- **Aggregation Issues:**
  - Aggregation is not so much disallowed as made impossible by the verification rules. Annual site visits, confidence interval requirements, and project additionality combine to make aggregation difficult if not impossible. It may be possible to define a project in a way that devises a creative work-around for some of these requirements.
  - The section (in the regulations) on aggregation around voluntary renewable energy may be helpful. It’s a set-aside of allowances for home solar tech systems, but because aggregation is included, we may be able to build something from there.
  - We should ask ARB to clarify their position on aggregation directly.

- **Transparency of Discounts:**
  - Fully documenting where you round up or made conservative assumptions or decided on a measurement tool that is more conservative will be essential to convey how conservative estimates are surrounding agricultural protocols.
  - When looking at point source quantification methods you are looking at central point estimates. With Ag protocols you are building in additional adjustments to ensure you are on right side of the error bar (i.e. under-estimating emissions reductions rather than over-estimating them). For verification purposes as well as programmatic transparency, all such adjustments for conservativeness should be transparently documented.
  - Additionally, by identifying where adjustments for conservativeness are incorporated you are clearly identifying those places where there are opportunities to do more work (e.g., more research, develop better tools or technologies) to reduce uncertainty. Over time you will increase certainty. This is a critical component of building a system and a program that becomes more resilient and exacting over time, because you identify all sources of uncertainty in the system.
  - There needs to be attention to how to remedy issues that are identified once the system or program is operating. There will be issues, and a process to correct or resolve them should be considered. For instance, if missing or invalidated credits is an issue, a buffer pool of reserve replacement credits could be a remedy.

Discussion of project level verification

At this point the group switched focus from program level recommendation to verification issues at the project level. The discussion began with Debbie Reed offering some information on the experience in Brazil.

In Brazil the national program for GHG mitigation includes a sectoral approach for the agricultural sector, based on incentivizing emissions reductions associated with certain activities, or project types. For instance, no-till or low till agriculture is considered one project type or approach, and
certain verified activities are specified as appropriate for this activity (e.g. satellite based monitoring). One approach C-AGG might consider is whether we identify project or activity types and specify appropriate verification activities that might be utilized. I would suggest if we can, thinking about approaches or technologies that will work, in lieu of (or combined with some level of) site visits, to provide certainty that an activity has happened. We should be thinking above and beyond ARB overall, but in the ARB case specifically there are two classes of projects - rice and nutrient management, where an activity-based approach could be helpful. What can we offer ARB here?

- For rice if you are using the DNDC model, the user front end and inputs to the model are the logical places to focus on for simplifying verification.
- Look at what is most important to ARB. They want precision in the number of tons. If we look at it from the 95% confidence level, there are a number of ways to reach their goal.
- Using the example of remote sensing, we will not only have to identify this as a verification approach, but also specify when it is useful. (Note, it was agreed that remote sensing can include a host of options, including satellite images, low-flying aerial imagery, photos, or even flow meters on pumps, and that we would not try to define all instances of remote sensing.)
- Looking at the ISO verification pyramid, they use data checks, interviews, and face-to-face site visits, in decreasing order. Checking data and records without speaking with the project or visiting is the first level check; additional checks are added based on project complexity or evidence of risk, and when it is cost-effective.
- Verification guidance should specify what the possible or distinct levels of verification are, and what the triggers (or stratification formula) are for each level. C-AGG as a group can make recommendations along these lines without getting into specifics, since we can easily stray outside our technical areas of expertise.
- A lot of what must be done will be specified in the actual protocol. Verification can take such a tiered approach, but it will be embodied in the protocol itself.

The facilitator offered this synthesis of the dialogue: ARB has choices in how they verify that are appropriate for problems they face. Verification should start with data checks, which might include remote sensing, remote monitoring, or on-site monitoring. Then move on to add data collected by interviews that could be conducted in any number of ways to avoid the cost of face-to-face visits. Finally, on-site visits are only done to include ensure overall certainty of the program.

- There can be certain activities that we would be remiss to not require a site visit, where it would be an abrogation of duty. Example: biogas and the complications of metering and safety. These are major engineering projects, a lot goes into it, and these may need more frequent site visits.
• By including the concept of risk in verification determinations, that should capture it, and trigger a site visit. Some categories of projects, like biogas, could be classified as higher risk; as well, some triggering events like weather might also require site visits.

• One recommendation C-AGG can make is that this concept should be discussed with stakeholders during protocol development. If a category of projects is appropriate for a higher level of site visits, whether due to risk or complexity, stakeholders should talk through the project type or the protocol with policymakers.

• The type of verification will depend on the project type and value. A project that involves an installation that will produce millions of tons of offsets will warrant on-site visits. There needs to be proportionality between verification costs and project value.

Thursday, November 8th, 2012
The day kicked off with a brief review of the agenda and of the USDA and Senate briefings planned for the afternoon. The group then immediately went into it first order of business.

Group Dialogue: Reflections from Day One
The facilitator invited comments from the group about yesterday’s extensive dialogue on verification.

There was agreement the discussion about verification was robust, and there seemed to be a lot of agreement coming from participants.

Additional observations:

• Interestingly, after the aggregation discussion we came right back to where CCX was. The inverted pyramid and sampling, that’s how we operated our program and it went very well. There were one or two cases where people weren’t doing what they said they were, but everyone put them on their toes, because site visits were randomized each year. Random verification is used in many realms.

• Having thought about it overnight, the question seems to come down to whether we would rather be generally right or precisely wrong, and it seems we would generally like to be right. Too much precision might not be warranted to do this right. There seems to be a lot of fear involved, and that can stand in the way of truth and getting things done right. If we are overly analytical, we can immobilize the entire program.

• Multiple tiers and thus multiple opportunities for agriculture to participate in GHG mitigation seems appealing and sensible. If ARB can help with that it could move the field forward. Compliance markets might be a gold star standard, but the verification requirements might be too costly, at least for some activities.

• Concerns were expressed about the proposed terminology of “offset tiers”, since this can be confused with other tiers used in climate change jargon. CEQA grade offsets isn’t the right
term either. We need to get the language right. One suggestion was to use **AGER – Agricultural Emissions Reductions**.

- The important factor is that of discounts. The onus is on ARB to decide how to value carbon. Some (buyers) want Neiman Marcus carbon offsets, some want Ross carbon offsets; let them decide where they want to shop.
- New language or terminology may not need to be created. There is language in AB32 that can be used. They have complimentary markets. These markets are not cap-and-trade, but they exist. One year projects can create credits for compliance offsets, the next for complimentary markets. You may lock yourself in if you choose offsets, but there is no reason why you couldn’t switch back and forth.

**Facilitator summary:** There seems to be a general sense that there is a need for opportunities for Ag to participate in offset markets, including something other than GHG compliance markets. Some of this is happening already and should be further encouraged. That said we don’t want the creation of such markets to be confusing. Our language about this matters.

- Working in New England on a Winrock project to create wind opportunities for New England farmers, the farms are small and the opportunities small, even with aggregation. The hope is that C-AGG can also recommend a verification system or approach that isn’t necessarily specific to CA ARB standards.
- CA is the place du jour, but there are other opportunities. We should remember that C-AGG is a policy group, and our recommendations should remain in that realm, and not stray too far.
- We should clarify that there are some CA requirements that are not nationally or internationally recognized standard for verification of offsets. For example, ISO 1465 for standards for verification are not as rigorous as ARB’s standards. As a group, C-AGG could discuss some of these other standards, and show how they differ from ARB requirements.

**Working Session: Review of C-AGG Recommendations on Verification Approaches: Adjustments or Revisions?**

The opening dialogue moved seamlessly into a review of the recommendations C-AGG began to develop for ARB. There was considerable disagreement regarding whether it was wise or even (technically) feasible to promote the concept of multiple tiers of offsets.

- There is a need for offsets in California, and there are opportunities for mitigation credits that have lower hurdles to participation than compliance-grade offsets under AB32. We should use terms that ARB is familiar with in our recommendations, and when we are not referring to offsets, we should not use the term offsets. There are already opportunities within these alternative venues: on the ARB website if you look at the sections on local government and how ARB is working with CAR and at a local government level, you will see there are opportunities, but there is not yet much happening. The door is open, and
whoever walks in can take advantage of it. Coordinating with the regional Air Boards is one possibility. What we are talking about is kind of a new concept, it’s neither cap-and-trade nor voluntary, but something in the middle.

- There is risk in chasing new credit opportunities. There is concern that if this will be driven by market supply and demand, prices will not be sufficient to drive voluntary reductions.
- **Question:** What about sustainable supply chain initiatives? There is increasing anxiety about the proliferation of supply chains issuing standards largely targeted at Ag, but without any incentives. I would like to see more work in this region. Is this another tier?
- The real benefit of lower tier offsets is getting practices implemented that have a GHG benefit. There is value in a second tier of protocols being useful. For instance, in states like MD, they may accept more uncertainty in exchange for lower verification costs.
- We won’t kill AB32 by working on alternative approaches in parallel. Ag is not going to be able to participate in AB32 in huge amounts (at least not early on), but we cannot afford to lose either opportunity.
- C-AGG could agree on a universal type of approach. Not all emission reductions will be creditable, and not all will result in tradable instruments. An example would be supply chain initiatives that do not lead to tradable instrument. When you think about the opportunities for GHG emissions reductions associated with nutrient management, mostly outside CA, it is a category equal to emissions from coal mining and landfills. The best way to move is to help farmers connect to a compliance market through high quality creditable offsets. We should not give up on that fact and have to keep working to say this is an important opportunity that is not being addressed. As long as we keep our terminology clear, we are okay. Let’s not call them second tier, or second grade. Let’s call them what they are.

*Facilitator summary: Our first goal is to create tradable credit markets and make a real difference to the economic bottom line of agriculture and agricultural GHG emissions and sequestration. There is an emerging second area, non-tradable or non-compliance offsets, and other methods to create incentives and compensate agriculture to achieve the public’s goal of keeping Ag viable and reducing our carbon footprint. C-AGG is interested in both paths.*

**Update from USDA on Relevant GHG Activities**

Marlen Eve, USDA, Climate Change Program Office

- Marlen’s goal was to give an update on the USDA’s work developing science-based methods and technical guidelines for quantifying greenhouse gas sources and sinks in the forest and agriculture sectors.
- The 2008 Farm Bill established a USDA mandate to allow agriculture to participate in environmental service markets, including primary consideration of carbon markets. USDA has focused on creating a standard set of GHG quantification methods and tools for landowners, USDA, and other stakeholders. Their current project has two phases:
• Phase 1: Report outlining comprehensive science-based methods for entity-scale GHG estimation; and
• Phase 2: Development of a user-friendly tool that follows the methods report to provide landowners and managers with reliable and understandable estimates of GHG emissions and C sequestration.

• USDA is currently deeply engaged in the methods review.
  o Three author teams are focused on livestock, forestry, and grazing.
  o Author teams have developed a draft report, which is being reviewed within USDA, by interagency GHG experts, and by outside scientific experts.
  o Authors have addressed comments from the internal and inter-agency reviews, and 45 external expert scientists have been identified. Once their review is complete a final draft will be circulated for public comment.
  o After public comment, the draft will be put through another round of scrutiny within USDA and their Federal agency partners before being published and released to the public.

• The methods report is driving tool development. Work has already begun laying out inputs, output reports, functionality, etc.

• TRACCR (TRee and Agriculture Carbon CalculatoR) is currently a conceptual model that integrates multiple models with consistent inputs to provide GHG estimates for farmers/ranchers and other stakeholders.
  o To make it complete for agriculture, it has to account for woodland, shelter belt, and livestock, all within the same tool.
  o DAYCENT will be running real time in background.
  o The USDA is looking at ways we can incorporate tools on the forest side to do same thing.
  o Holos and DairyGEM are also used.

• How does this compare with work being done on COMET?
  o USDA has been working closely with COMET developers, and is developing a visualization to show how the two tools interact. They are trying to match each tool to its strengths and to cross-reference the same data, methods, and models.

• Why have two tools?
  o The quantifier tool is intended to be the USDA standard snapshot in time, while COMET is a continuously evolving research tool.

• USDA is working to develop the both in modular formats to capture synergies.
• USDA will be seeking public comment in April 2013, and a version of the quantifier tool should be available in the fall of 2013. Part of deliverable will be to have a user manual that will guide people through its use.
• GraceNET will be indirectly referenced in the tool. GraceNET is primarily a field data collection protocol. Their goal is for the tool to be easy to use to help landowners understand how to better manage their land.
QUESTION: One challenge of having different tools is that variable results can bring the credibility of all tools into question. Will the data produced by TRACCR be uniform with and match up with data in the national inventory? Will TRACCR produce different outputs than Comet-Farm? If you use GraceNET field protocols, will the results differ from TRACCR or Comet-Farm?

ANSWER: Not all numbers will be the same. The charge to the USDA author panels was not to create a system inconsistent with the national inventory. Massive scale differences raise a lot of challenges. If you do a calculation for each land management unit you come up with an unrealistic number at the national scale. USDA is reasonably confident the tools won’t create terribly conflicting information. The reason Adam Chambers and Marlen have been in coordination during the development of these tools is they are striving for consistency. When it comes to comparing these tools with field data, the direction to the author teams was the same. At this point the focus is on ease of use and comprehensiveness. USDA wants something that will address management issues across whole farm/ranch operations. This is slightly different at its core than a lot of protocols that are designed to focus on one activity or one set of management options and driving precision in that particular activity or set of activities.

Question: Could TRACCR be used to quantify reductions for non-compliance types of markets?

ANSWER: What is being developed at USDA could be a standard for the less rigorous type of credit that has been discussed. Marlen could not speak to USDA’s position on this. He is not a policy person, but one thing he could say is that they were advised by the interagency advisory group to steer clear of terms that require a policy definition. They are very focused on being technically solid and scientifically rigorous. Given the right policy direction, the tool could be used in many ways.

QUESTION: Can you explain what you see as the interaction between your tool and the Farm Bill conservation programs? How does it work with USDA and the farmer side?

ANSWER: Having this tool in-house at USDA will allow the department to put numbers on NRCS practices, to more strategically drive their research arms, and to refine and improve USDA’s conservation arm and make sure conservation practices are being equitably cost-shared and serve the broadest possible set of environmental benefits.

C-AGG Briefings for Administrative and Legislative Branch

A joint C-AGG and USDA briefing, **Highlighting Environmental Markets and Public-Private Partnerships**, was hosted by USDA Under Secretary Harris Sherman at the Department of Agriculture. Federal agency representatives from many USDA agencies as well as from the White House Council on Environmental Quality (CEQ) and the White House Office of Management and Budget (OMB), the Department of Interior, the US Environmental Protection Agency (EPA), and the Department of Transportation were present, as well as additional C-AGG stakeholders and participants. Introductory and context-setting presentations were provided by USDA Under Secretary Harris Sherman, NRCS Chief Dave White, and C-AGG Executive Director Debbie Reed.
Reed highlighted that C-AGG is a multi-stakeholder coalition focused on incentivizing GHG emissions reductions in agriculture in ways that benefit the sector as well as society, and that market-based opportunities are a potentially attractive method to achieving these goals.

Dan Zarin, Director of Programs for the Climate and Land Use Alliance (CLUA), spoke on behalf of Walt Reid, Director of Conservation and Science Programs at the David and Lucile Packard Foundation, and underscored the benefits of the public-private partnership between C-AGG and USDA in support of the Greenhouse Gas (GHG) Conservation Innovation Grant (CIG) projects funded by NRCS. The mutual benefits of this partnership to C-AGG and its objectives and to USDA and NRCS, as well as to project participants and project development and implementation was the main focus of the briefing. Reed and Zarin discussed how funding from the Packard Foundation is used to support participation of GHG CIG participants at C-AGG meetings, and has enabled CIG participants, for the first time, to work collaboratively together to problem-solve and share learnings as they develop and implement their projects. This highly successful collaborative model is now being replicated by USDA NRCS with other CIG projects. The C-AGG/GHG CIG collaboration has additionally allowed C-AGG to articulate essential elements and realities of GHG mitigation projects at the farm scale to relevant policymakers, protocol and project developers, GHG registries, and investors and participants in the voluntary carbon markets. C-AGG is also engaged in open dialogues with policymakers in California who are at the forefront of developing and approving agricultural offset protocols as part of implementing California’s cap-and-trade program, and the valuable experiences of the GHG CIG projects have enriched those discussions and interactions. Zarin also highlighted similar work funded by CLUA in other countries, such as Brazil, which has invested $500M in low-cost loans to incentivize GHG emissions reductions within the agricultural sector.

Project overviews for three innovative GHG CIG projects were then provided by project participants, followed by a lengthy discussion period between the assembled group of nearly 60 people. Discussions about the multiple benefits of agricultural GHG mitigation projects – such as air quality and water quality from reduced nutrient impacts – were one particular focus. USDA’s ability to gather and provide farm level data and additional data sets, including research data sets, in a form that would be of benefit to project, program, and model developers for environmental markets was also widely discussed, and has resulted in follow-up discussion between C-AGG and relevant federal agencies.

A small group of USDA and C-AGG participants then repeated the joint briefing for Chairwoman Stabenow’s Senate Agriculture Committee staff on Capitol Hill, as a means of updating staff on the public-private partnership, and progress in general related to C-AGG and its activities.