ARB Staff Technical Paper
Evaluation of the Potential for International Sector-Based Offset Credits in California's Cap-and-Trade Program
March 22, 2016 Technical Workshop

Background

Addressing climate change requires a comprehensive assessment of the causes of greenhouse gas (GHG) emissions. The Global Warming Solutions Act of 2006 (Assembly Bill 32, or AB 32) recognizes the importance of California's climate leadership and engagement with other jurisdictions, and directed the California Air Resources Board (ARB) to consult with the federal government and other nations to identify the most effective strategies and methods to reduce GHGs, manage GHG control programs, and to facilitate the development of integrated and cost-effective regional, national, and international GHG reduction programs.

ARB began assessing emerging international mitigation actions as it developed the AB 32 Scoping Plan and the California Cap-and-Trade Program. One of the most studied sectors within which mitigation actions have been proposed has been tropical forests, which serve as one of the world's most important carbon sinks. Emissions from tropical deforestation and forest degradation are estimated to account for between 11% and 14% of global GHG emissions. Initiatives for reducing emissions from deforestation and forest degradation are thus a critical part of addressing global climate change, including climate change in California. Mitigating tropical forest deforestation may have additional effects on California's climate and environment because research indicates a direct link between tropical deforestation and reduced California precipitation.

Within the context of the Cap-and-Trade Program, which allows for the limited use of carbon offset credits, ARB has been evaluating whether it could apply the same kind of rigorous quantification methodology as utilized in California's domestic offset program internationally at the jurisdiction-scale. ARB staff believes that the inclusion of international sector-based offset credits within the already existing quantitative usage limit for offset credits within California's Cap-and-Trade Program would contribute to cost-containment benefits under the program, demonstrate California's climate leadership, and yield benefits to biodiversity, forest-dependent community livelihoods, and other areas integral to low emissions rural development in tropical jurisdictions. Even while this evaluation of the potential under the Cap-and-Trade Program continues, ARB staff remains open and interested in exploring other mechanisms that could lead to greater investment in effective forest restoration and protection programs for tropical forests. ARB staff is interested in stakeholder input on which other tools the State of California could employ to mitigate tropical deforestation and achieve the resulting benefits for the climate and communities.

To date, ARB has not approved any international, sector-based offset credits to be used for compliance under the Cap-and-Trade Program. ARB staff explained in the Cap-and-Trade rulemaking that further work would be needed to determine how a sector-based program could fit within the rigorous AB 32 and Cap-and-Trade Program criteria. In October 2015, ARB staff released a white paper summarizing the work conducted to date, as well as assessing recommendations provided to ARB in July 2013 by the REDD Offset Working Group (ROW), a team of technical experts convened pursuant to a 2010 Memorandum of Understanding with Acre, Brazil, and Chiapas, Mexico. The October 2015 white paper was presented at an initial public workshop to discuss the potential for including international sector-based offset credits in the Cap-and-Trade Program on October 28, 2015. As described in the October 2015 paper, if the Board were to proceed on considering the inclusion of any sector-based offset credits or program, the following steps would need to occur first: further technical workshops, potential regulatory language proposals, the full Administrative Procedure Act rulemaking process, and Governor linkage findings pursuant to SB 1018.

Design Options

As mentioned at the October 28, 2015 workshop, ARB indicated that staff would hold a series of technical workshops to further assess the issues and criteria that could inform the development of a staff regulatory proposal for a potential sector-based offsets crediting mechanism. On March 22, 2016, ARB will hold the first of these technical workshops to discuss the following topics:

Program Scope

Among the first questions in designing a jurisdictional sector-based offset program are: What is being measured? Which forest carbon emissions shall be counted? How should carbon uptake from forest growth be accounted for? These questions are complicated by the diverse carbon pools within tropical forests, such as above-ground biomass (i.e., tree trunks and canopy) versus below-ground carbon pools (i.e., roots and soil carbon). Whatever the forest circumstance, the ROW experts widely agreed that a program should have the ability to include all measurable and verifiable emission reductions.

The first step towards this greater inclusion is for partner jurisdictions to collect accurate forest carbon stock data. The ROW experts recommended that California focus initially on only accepting compliance-grade credits derived from programs designed to reduce emissions from deforestation and forest degradation (also known as REDD, or REDD+ programs), rather than also including carbon stock enhancement (i.e., conservation, sustainable management of forests, and enhancement of forest carbon stocks activities that make up the “plus” in REDD+). This approach allows partner jurisdictions to receive credit for reductions from deforestation and degradation, which are technically simpler to measure, account for, and verify. That said, the ROW experts noted that partner jurisdictions could at least measure the changes in carbon stock from forest enhancement so that California would have the option to credit the carbon sequestration if the methodology is proven to be robust.

ARB staff is seeking specific feedback on the initial approach of only considering programs from jurisdictions that can accurately measure, account for, and verify emissions reductions from reduced deforestation and degradation. As indicated by the ROW recommendations, this approach is simpler and more conservative than programs which also seek to measure, account for, and verify additional reductions from carbon stock enhancement activities. In cases where the partner jurisdiction only has accurate deforestation data, ARB staff seeks input on how to allow for crediting for reduced emissions from degradation in the future, while allowing for current crediting for reduced emissions from deforestation.

Crediting Pathway

Another issue in terms of the architecture of a jurisdictional sector-based offset program is the crediting pathway. This refers to who issues credits and who receives them. In California's Cap-and-Trade Program, offset credits are issued by ARB to offset project operators or other parties. The ROW experts recommended that partner jurisdictions issue the offset credits, which California could then recognize as compliance-grade offset credits. Another approach contemplated by the ROW is that partner jurisdictions could decide whether individual, "nested" projects are eligible or whether only jurisdiction-scale reductions would be credited. If these nested projects are credited, the ROW experts recommended that partner jurisdiction would need to provide specifics as to how the individual project is accounted for within the jurisdiction-wide emissions level.

As described in the October 28, 2015 workshop and October 2015 white paper, ARB staff is only contemplating linkage with jurisdictional programs, not with single projects. This relates to the mechanism under which ARB may link with another jurisdiction's program and the jurisdiction-to-jurisdiction partnership that ensures additional enforcement and other benefits. Such an approach would mean that the jurisdiction would be the credit-issuance entity. Within this construct in which the jurisdiction issues all credits, ARB staff is interested in specific feedback from stakeholders on the following: (1) should ARB only consider programs where all crediting would be conducted at the jurisdiction level, such that the jurisdiction (or a designated branch of the jurisdiction) would sell the credits, and ARB would recognize those jurisdiction-issued credits as compliance-grade within California's Cap-and-Trade Program; or (2) would a program in which credits are issued by the jurisdiction to nested projects, and the nested projects sell the credits, be acceptable; and if so, what additional project-level criteria would need to be met? Alternatively, should ARB staff consider this in a more phased manner such that any initial regulatory proposal only include the first mechanism (i.e., the jurisdiction issues and sells credits), and the second mechanism (i.e., the jurisdiction issues credits, and nested projects may sell credits) could be contemplated as part of a potential future rulemaking?

Reference Levels and Crediting Baselines

The importance of accurate reference levels cannot be understated, as they benchmark not only the emission reductions, but also payments for offset credits. Three challenges to establishing an accurate reference level have been identified in the literature: 1) getting reliable historical deforestation data; 2) uncertainty about variation in future deforestation levels; and 3) incentives to artificially raise the baseline in order to increase perceived emissions reductions, and thus offset credits. The ROW experts and other researchers have developed guidance on how to establish a reference level for a program based on historical data and deforestation drivers. As part of any proposed regulation provisions, ARB would need to define how to set reference levels. In addition, prior to any linkage with another jurisdiction on sector-based offsets, ARB would need to evaluate the reference level for conformity with established best practices.

A jurisdictional program must show that real, measurable, and long-term emission reductions would occur *in addition to* what would occur under a Business-As-Usual (BAU) scenario. In other words, the emission reductions must be greater than what would have happened in the absence of a sector-based crediting program. To understand the BAU scenario, the ROW experts recommended establishing a reference level (essentially a sector-wide forest inventory baseline) from the 10-year historic average emissions due to deforestation. For example, a jurisdiction could have a 10-year average of 100 tons of GHG emissions (i.e., carbon dioxide equivalent (CO2e)) per year, making the reference level 100 tons per year).

The ROW experts also recommended establishing a crediting baseline below the reference level to ensure that partner jurisdictions demonstrate their own efforts at reducing emissions. This might mean, for example, that emissions have to drop below 95 tons per year before offset credits could be created (meaning crediting would not occur for those first 5 tons of “own effort,” but could occur for any additional emissions reductions).

Finally, the ROW experts allowed for the possibility of reference level adjustments if there is a valid reason, such as a new road being built which could increase annual emissions. With an accurate reference level and potential adjustments, as well as a crediting baseline, the ROW experts believe that sector-based forestry offset credits would meet the additionality test established in AB 32 and in the Cap-and-Trade Regulation. California already uses a “performance test” to determine a project’s baseline, which must be established to determine what would be additional in its approved, domestic Compliance Offset Protocols. The ROW recommendation to establish a reference level that is at or below historic emissions and then a crediting baseline below the reference level fits within the existing ARB policy for how to determine additionality.

ARB staff is seeking specific feedback both on how to appropriately set a reference level based on historic averaged data and on the best mechanism(s) for establishing an appropriate crediting baseline to ensure that California only approve sector-based offset credits that are additional. More specifically, ARB staff is seeking input on the 10-year historic baseline approach, and which timeframe would best ensure that a partner jurisdiction could not simply increase its deforestation rate in order to artificially raise its reference level prior to seeking crediting. With respect to the crediting baseline, ARB staff is interested in stakeholder feedback on rigorous methodologies, such as percentage reductions below the reference level, that are best able to ensure credits are additional.

Reporting Requirements

California's Cap-and-Trade Program requires the use of stringent measurement, monitoring, reporting, and verification systems for its offset program and for its GHG emissions reporting program. These systems help track progress and mitigate against reversals and leakage. These systems essentially represent the auditing of a jurisdiction's GHG emissions and efforts to reduce emissions from deforestation, allowing them to be credited for real reductions. However, the content, uncertainty level, and measurement, monitoring, reporting, and verification standards can affect the legitimacy of a sector-based program and how many emission reductions are real, additional, verifiable, and quantifiable. To deal with the uncertainty of precisely measuring emission reductions over a jurisdiction, the ROW experts recommended that California establish a sliding scale discount by which fewer reductions would be credited as the uncertainty level of the measurements increases. Beyond a certain level of uncertainty, ARB could decide to no longer recognize credits from that program. The ROW experts also recommended that the measurement, monitoring, reporting, and verification process should be transparent with an independent third-party verifying the methodology of the process.

To ensure that only "real" reductions are credited, ARB would only consider sector-based linkage with programs with accurate and well-developed monitoring, reporting, and verification methods. Though ARB might not define specifically how jurisdictions should conduct monitoring, reporting, and verification activities, prior to accepting sector-based offset credits, ARB would need to define an acceptable error range.

Prior to linking with a jurisdiction-wide sector-based offset program, ARB would need to assess the quantification of emission reductions, including any harmonization needed for nested projects (if ultimately allowed), in that program. Much like evaluating other aspects of emissions reductions, such as whether they are “real,” this would mean examining the other jurisdiction’s methodology to ensure that it meets California’s standard. Programs must be fully transparent, with sufficient information provided on methods and uncertainty estimation to permit full public evaluation and verification. ARB, through the design of the Cap-and-Trade Program, would have final say on which programs were approved as eligible under California’s system.

During the October 28, 2015 workshop, Dr. Greg Asner presented on some of the existing technologies and tools (such as combining satellite imagery with aerial and other remote sensing technologies such as LiDAR and multispectral imaging) that are in use within GCF and other jurisdictions to conduct robust monitoring, reporting and verification. These technologies already include uncertainty parameters for the monitoring of carbon stock which are in the same range as traditional carbon stock measurement, but at a lower cost.

ARB staff is seeking stakeholder feedback on the types of technologies and tools that can most effectively and accurately ensure robust monitoring and reporting of jurisdictional programs, including whether additional discounting may be necessary given the uncertainty bars as we understand them. ARB staff is interested in feedback on whether requiring the use of specific technologies is necessary, or whether setting parameters within which sector-based programs would need to fit to be considered by ARB for approval is adequate. With respect to verification requirements, ARB staff has tentatively scheduled a follow-up workshop on April 5, 2016 in which that topic would be addressed.

Next Steps

ARB staff looks forward to stakeholder feedback on these topics, and requests written comments on this white paper and the March 22, 2016 workshop by 5:00 PM Pacific on Friday, April 8, 2016. Comments may be submitted at http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm.

ARB staff also anticipates discussing additional technical topics in the next months to further inform a potential staff regulatory proposal related to accepting sector-based offset crediting programs within the Cap-and-Trade Program. Additional technical workshops are tentatively scheduled for April 5, 2016 (covering reversals, offset tracking registry platforms, and verification) and April 28, 2016 (covering linkage process and social and environmental safeguards). A listserv notice will be issued to announce each of these meetings once details and topics become final.