April 22, 2016

Dear Air Resources Board,

Thank you very much for you tremendous effort in creating the recommendations for California's inclusion of REDD+ jurisdictional offsets into the AB 32 compliance program. Terra appreciates the significant amount of work is going into designing the sector-based crediting program. We at Terra, completely support the inclusion of jurisdictional REDD in the AB 32 compliance program, as a way to both deliver cost effective compliance grade offsets, and if designed properly, benefit communities who manage their land and forests sustainability.

Terra Global Capital, LLC was founded in 2006 to facilitate market and payment-for-performance based approaches for forest and land-use emission reductions that provide community benefits. Terra is now the leader in forest and land-use analytics and finance, providing technical expertise and investment capital to their global client base in a collaborative and innovative manner. As a group, Terra has more global experience in the land-use carbon sector than any other entity and is committed to working with its local partners to build capacity and support local communities and governments to sustainably manage their land. Terra has extensive developing country experience and is the leading developer of protocols to measure GHG emissions reductions from a full range of agricultural activities in the United States.

For jurisdictional REDD+ Terra was one of the lead technical writers of the VCS Jurisdictional Nested REDD Requirements (JNR) and is on the JNR Permanence and Leakage work groups. Terra developed one of the first papers on Operationalizing jurisdictional REDD for the Governors' Climate and Forest Task Force and recently has provided technical finance, operational, MRV and leakage support the Forest Carbon Partnership Fund. Terra provides technical support to the government of Congo in the preparation of the emission reduction program document (ER-PD), for their participation in the results-based payment of the World Bank Carbon Fund. In addition, Terra work on the design and implementation of the USAID BIOREDD jurisdictional program along the Colombian coast. Please accept the following high level comments:

Buffer Pool

Terra suggests that ARB use a buffer pool to account for potential reversals. The buffer pool is an appropriate cost-effective approach to risk management, and can be applied to all jurisdictions in a similar manner. There are many standards that use a risk-buffer and years of knowledge can be leveraged from these existing standards. Terra does not suggest that a specified percentage of credits should be set aside for each jurisdiction, but that there are "risk ratings" given at each verification period (similar to that of the AFOLU Non-Permanence Risk Tool). This step-wise approach can be applied to 1) Human-caused risk broken down into Management Risk (or risk associated with implementation and maintenance of REDD+ activities), Political Risk (such as legal and regulatory, political stability), and 2) Natural Risk (wildfire, pets or other ecological risks, including a changing climate). By defining risks on

a more granular manner, the appropriate risk mitigation and non-permanence buffer methodologies can be applied. Over time, as the jurisdiction reduces risk (such as implementing climate mitigation activities, deeply engaging communities, has better political stability, etc.), the risk rating should be reduced, and less credits should be held in the buffer pool. The use of the buffer pool and the reduction of the buffer pool over time encourages jurisdictions to improve in all methods from political stability, to improved forest management, and community engagement.

Insurance

The effectiveness of insurance to reduce reversal risk depends on the type of risk that would lead to the reversal and whose risk is being insured. If sectoral credits carry with them the same buyer liability that domestic offsets carry for invalidation and this is applied to cases where reversals were over a threshold, then sectoral credit buyers could seek to use insurance instruments to reduce this risk. The threshold could be set such that it is triggered only after the jurisdiction's own risk buffer pool, as defined in their methodology and funded with credits, does not have adequate credits to cover the reversal. In this way, it 1) requires jurisdictions to have risk buffers (based on their methodology and program risk), 2) provides protections within AB 32 through buyer liability for any reaming reversals, and 3) sets up a structure where credits from different jurisdictions can trade according to their specific risk. This use of insurance by sectoral credit buyers will then be a decision of risk/return versus other compliance instruments. Depending on the legal instrument between California and the jurisdiction, there may also be an interesting case for the state to use insurance to protect the integrity of their program.

For specific applications of insurance there are two possibilities, insuring 1) natural risk and 2) political risk. There are products that have been developed to protect against weather damage to crops and timber, but to date there has been limited use of these to insure carbon values against natural risks. The existing products could evolve if there is meaningful demand from the users of sectoral credit under AB 32.

For political risk, Terra developed a product with Overseas Private Investment Corporation (OPIC), that was used to protect Terra against loss of carbon linked investment value due to expropriation by the government and/or political violence. This was applied to an investment made by Terra in a REDD+ project in Cambodia and provides protection in the case where the government beaches its agreement or if there is political violence in the REDD+ area that destroys carbon credits. Besides OPIC, MIGA provides political risk insurance, but has yet to underwrite a pure carbon based policy like OPIC. This product could be very valuable to credit buyers and possibly the state to protect against loss of value. OPIC has in the past indicated that they would also be in a position to insure against changes in law that demands investment value. This could be very useful in the REDD+ sector which is still in the early stages of regulatory development.

These products could be a compliment but not replacement for sound risk assessment that funds jurisdictional non-permanence risk buffer pools. Any methods that discount the future or apply general not risk based deductions will be counterproductive.

Leakage

At a high level, the leakage risk being addressed appears to represent market and commodity leakage, and does not include activity shifting leakage, or geographically constrained, subsistence based leakage. Activities, such as sustenance agriculture, shifting from one jurisdiction to another need to be clearly addressed and quantified.

In order to properly address market or commodity leakage, Approach 1 is most appropriate. Approach 1 more closely aligns with internationally recognized standards, although the data required to measure the loss in production and determine the proxy of land maybe difficult to obtain in a credible way. In order to address this, accepted jurisdictions must demonstrate the availability of the required data. Approach 1 must include conditions in which a decrease in production should not be penalized due to a downturn in market or other market forces.

Approach 2 does not appear to capture a quantifiable leakage discount and it is unclear how that approach can contribute to managing leakage. In general, activities suggested to reduce leakage within the jurisdiction, are just activities to reduce deforestation.

Jurisdictional Offset Tracking System

With regards to the proposed minimum standards for the jurisdictional offset tracking systems, Terra agrees with the list set forth by ARB. However, we would add to the condition that the system is transparent and publicly available free of charge, that there would need to be mechanisms in place to protect commercially sensitive information.

We support the inclusion of nested projects within a jurisdictional program to also be accounted for and tracked within the offset tracking system, some of which include REDD early movers, The Forest Carbon Fund and ISFL.

Monitoring, Reporting and Verification

At a high level, ARB should specify in the regulations an overarching set of principles and criteria, or set of standards, that all jurisdictions need to meet at a minimum in order to be considered in the sector-based crediting program. Jurisdictions must define methods followed in order to meet the principles and criteria. Terra would like to make it clear that there should be separate validation and verification events. Methodologies used for sector-based crediting programs should be validated by a third party to verify that the methods used follow ARB's set of standards. Terra views verification as the event where activities implemented are confirmed and credits are issued. Verification should be separate then monitoring, as monitoring should be continual for different events and activities implemented through or triggered by the program.

Terra suggests that there is an independent third-party used for both validation and verification. This is the most objective approach to give guidance on the success of the program. ARB's current verification standards could be followed for the design of and definition of the verification procedures

Terra supports that jurisdictional sector-based crediting programs should be fully transparent with sufficient information provided on methods and underlying uncertainty estimations to permit full evaluation and verification. Terra also supports that jurisdictions can be transparent on procedures used while protecting intellectual property. The use of an independent third-party can help with both meeting transparency requirements and the protection intellectual property.

Thank you,

Leslie Durschinger
Founder, Managing Director
Terra Global Capital, LLC