Why the California Air Resources Board must reject the draft California Tropical Forest Standard

12 November 2018

Jutta Kill

Dear members of the California Air Resources Board,

I submit these comments as an activist and biologist whose action-oriented research aims to support social movements in analysing and assessing new tendencies in nature conservation, environmental protection and international forest policy and their impact on communities for whom forests provide a home and livelihood. My research over the course of the past 25 years has highlighted the role of voluntary certification schemes, carbon markets and the new economy of nature in maintaining ecologically unequal trade, and the associated corporate abuse of human rights and rights to land and use of peoples' traditional territories. Since 2000, I have documented the local impacts of numerous carbon and biodiversity projects that market compensation credits. So-called REDD+ projects have been a particular focus of this research (see a selection of relevant publications at the end of the submission). In combining field investigation with a critical analysis of the theoretical foundation and often-heard arguments in favour of these new conservation instruments, I have endeavoured to show why the trade with pollution permits is a false solution to the climate as well as the deforestation crisis.

1 Allow me to preface my comments on the draft California Tropical Forest Standard (TFS) with an acknowledgement of my consternation. Consternation about the California Air Resources Board presenting for public comment a draft Tropical Forest Standard which demonstrates confusion of the basic economic concepts of 'uncertainty' and 'risk'. That the impermanence of carbon storage in forests is not a "risk" but an "uncertainty" issue in offset trading schemes that equate fossil and forest carbon, has been pointed out on previous occasions where the Board sought public input on the issue of forest carbon trading.

Because it is fundamental to assessing whether the draft TFS can be considered to fulfil the requirements set out in California's Cap-and-Trade Regulation, sections 95991-95994, I will summarize the difference between "risk" and "uncertainty" in the following paragraphs.

The economist Frank H. Knight established the economic definition of the terms in his 1921 landmark book, *Risk, Uncertainty, and Profit*. He explains that ***risk*** establishes a ***measurable probability*** of future events while ***uncertainty*** is ***not measurable,*** and ***cannot be quantified***. Uncertainty occurs when circumstances cannot be analyzed either on *a priori* grounds - because they are too irregular - or through empirical observation – because they are too unique, for example. In other words, in uncertainty, the outcome of any future event is completely unknown, and it cannot be measured or guessed. ***The future of carbon storage in tropical forests over the coming 100 years – the minimum time of storage guarantee required by California's Cap-and-Trade Regulation – must be considered a circumstance***

that meets the definition of uncertainty, not risk: It is neither measurable nor quantifiable on a priori grounds or through empirical observation, and it cannot be guessed. As a consequence, a circumstance of uncertainty must not be deemed to be resolved through insurance or buffer pool arrangements. Yet, that is precisely what the draft TFS proposes.

The draft TFS seems to suggest that a proposed 10 percent "buffer pool" will guard against what is falsely identified as permanence "risk", but what in reality is the uncertainty of permanence that is inherent in any (tropical) forest carbon storage. Buffer pools and insurance are instruments designed to address "risk", not "uncertainty".

This uncertainty of carbon storage in (tropical) forests ought to rule out (tropical) forest carbon projects from inclusion in any offset scheme that requires assurance that emission reductions are "permanent". By proposing an instrument designed to address "risk" when the issue at hand is one of "uncertainty", the draft TFS fails to provide credible assurance that it fulfils the ARB requirement for "permanent" reductions. A standard which demonstrably confuses the concepts of 'uncertainty' and 'risk' cannot be considered to meet the ARB requirement, namely that tradable credit used under the California cap-and-trade program must represent real, additional, ***permanent, quantifiable, verifiable***, and enforceable reductions.

In conclusion, if a "buffer pool" is suggested as solution to the 'permanence issue', then the nature of the challenge that uncertainty of carbon storage in forest vegetation poses to an offset system which allows permanent release of fossil carbon from underground deposits in exchange for temporary and uncertain storage of carbon in vegetation above ground, has been misunderstood. For this reason alone, the California Air Resources Board must reject the draft TFS.

2 Let me further demonstrate through reference to a REDD+ project in Cambodia why the draft TFS is irreconcilable with the ARB requirement that carbon storage be permanently secured over a minimum of 100 years. The project is mentioned as a positive example for addressing the uncertainty in permanence of carbon storage in forests in the California Air Resources Board's 2015 White Paper on International Sector-based Offsets under the chapter ' Ensuring “Permanent” Emission Reductions from a Jurisdictional REDD Program': "Other insurance products include contracts to provide the insured with payment in the event of loss, such as the Overseas Private Investment Corporation’s $900,000 political risk insurance coverage for a REDD project in Cambodia". Note that like draft TFS, the 2015 White Paper already suffers from confusion of "risk" and "uncertainty", as demonstrated by this suggestion that insurance products are suitable to addressing the uncertainty of permanence in forest carbon storage.

OPIC issued the risk insurance in 2011. Since then, much of the forest included in the REDD+ project has been cleared, among others on orders or with consent of Cambodian military personnel, as documented in the 2017 Fern report 'Unearned credit. Why aviation industry forest offsets are doomed to fail': "The story of Oddar Meanchey is a depressing illustration of the impermanence of forests as a carbon store. Eyewitness and photographic evidence shows the military clearing forest inside the project area. A witness reports 'we were meant to be working on a project there, it was too close to the area that the military had been clearing, the next day, officials came in with Government approval to stop the whole project as it would expose the whole situation'. …. The shocking negative impacts of this project are

well reported. With the exception of one site out of a total 13 (a community forest run by monks, Song Rukavorn, which received exceptional levels of financial support) there has been no substantial decrease in the rate of deforestation and 'in terms of providing people with a humble income stream that can act as a disincentive to clearing forest, then the project has failed miserably in all sites" (Fern 2017: 16).

It is not known whether the project owner, US-based company Terra Global Capital, has requested pay-out on the political risk insurance it took out with OPIC. What is known, however, is that such a pay-out would not return back into the forest vegetation the carbon that has been prematurely released into the atmosphere now that the forest inside the REDD+ project areas has been cleared. Carbon which was meant to be stored 'permanently' to cancel out fossil carbon emissions elsewhere. Yet, most of the carbon which the REDD+ project promised to store permanently has by now been released into the atmosphere.

It is also apparent that the existence of the OPIC's political risk insurance was unable to ensure "enforceable reductions", a requirement under California's Cap-and-Trade Regulation. There is nothing in the draft TFS to suggest that the Terra Global Capital REDD+ project would not have passed assessment under the draft TFS as part of a jurisdictional REDD+ programme. There is equally nothing in the draft TFS to justify the assumption that the standard would have been able to guarantee "enforceable reductions" in this context where much of the deforestation was caused by or with the backing of military personnel. Certainly, a 10 percent "buffer pool" would have been insufficient in this case where most of the forest inside the project area has been cleared and the REDD+ project owners have shown to be unable to control deforestation inside their project area. Examples like this one demonstrate the negative climate impact of policy standards based on the regrettable confusion of "risk" and "uncertainty".

3 The draft TFS requires "the use of independent third-party verifiers to ensure data quality and conformance with the sector plan pursuant to Chapter 3." What the draft TFS fails to explain is how it envisages credible verification of "data quality" that would satisfy the requirements of the California Cap-and-Trade scheme given the immense error margins for carbon storage estimates in forests in REDD+ projects as well as jurisdictional programmes. In a context where error margins for carbon storage in the forest can be larger than the volume of offset credits sold, how does the Air Resources Board define verification of "data quality"?

4 An additional complication that the draft TFS appears to gloss over arises from the suggestion that the draft standard allows REDD+ projects that are 'nested' within jurisdictional REDD+ programmes. The draft TFS requires that such jurisdictional programmes establish their reference level based on a 10-year average of historic deforestation (see below). Private sector REDD+ projects, by contrast, tend to establish their reference level based on hypothetical stories of what would have happened in the absence of the project. Two examples underscore the complications that arise when private sector REDD+ projects based on hypothetical baselines are inserted into jurisdictional REDD+ programmes: The jurisdictional REDD+ programmes in the Democratic Republic of Congo (DRC) and in Acre, Brazil (see below).

Some background: REDD+ projects' hypothetical baseline approach is notorious for overestimating hypothetical emissions, i.e. the emissions that the project owner claims would have been released in the absence of the REDD+ project: Overestimating these hypothetical emissions increases the quantity of offset credits a project can claim to have generated: Comparison of actual emission savings with a particularly bleak hypothetical future that no-one can verify yields higher claimed savings than comparison with a hypothetical future where the claimed forest destruction is not so rampant. A study for the European Commission in 2016 confirms that such overestimation of hypothetical emissions is not a mere theoretical possibility in carbon offset projects.[1] The study did not include REDD+ because it assessed offset credit use in the EU ETS which does not accept forest carbon or REDD+ credits. There is, however, no reason to assume that the situation would be any different for REDD+ projects. In fact, the examples cited below from the DR Congo and Acre, Brazil, suggest that overestimation of hypothetical emissions also occurs in REDD+ projects. The 2016 study assessed a wide range of project categories eligible under the UN-backed Clean Development Mechanism, including projects that provide more efficient cooking stoves to reduce forest degradation caused by overuse of firewood. The researchers found that *less than seven percent* (7 percent!) of the CDM offset credits from CDM project categories permissible in the EU Emission Trading Scheme were highly likely to be based on real and additional emission reductions: "Overall, our results suggest that 85% of the projects covered in this analysis and 73% of the potential 2013-2020 Certified Emissions Reduction (CER) supply have a low likelihood that emission reductions are additional and are not over-estimated. Only 2% of the projects and 7% of potential CER supply have a high likelihood of ensuring that emission reductions are additional and are not over-estimated."[2]

The case of the Wildlife Works Carbon (WWC) REDD+ project in Mai Ndombe Province in the DRC suggests that overestimation of hypothetical emissions also occurs in REDD+ projects. Wildlife Works Carbon is a California-based company which operates REDD+ projects, among others in the DRC. The WWC Mai Ndombe REDD+ project has been selling carbon credits in the voluntary carbon market for some years, based on a project baseline that has been approved as compliant with the dominant carbon standard for REDD+ projects, the VCS (now *verra*) standard. Recently, the project appears to have agreed to a major reduction in baseline emission projections as a condition to being "nested" into the jurisdictional REDD+ programme in the Mai Ndombe Province: An Emissions Reduction Purchase Agreement[3] signed between the World Bank and the Government of the DRC in September 2018 notes that the WWC Mai Ndombe REDD+ Project had to accept a reduction of 33 percent of its REDD+ project baseline: "To be integrated and rewarded for performance over the ERPA period (2018-2024) the WWC project was required to reduce its baseline by 33%".[4] As noted above, this baseline that WWC agreed to reduce by a whopping 33 percent had been certified as credible and in accordance with the central standard for REDD+, the Verified Carbon Standard (now *verra*) – and it has been selling carbon credits based on this seemingly inflated baseline for years. The verification body which approved the baseline that

[1] Öko-Institut (2016): How additional is the CDM?
https://ec.europa.eu/clima/sites/clima/files/ets/docs/clean_dev_mechanism_en.pdf
[2] Ibd.: Page 11.
[3] World Bank (2018): Project Appraisal Document on a proposed Carbon Finance Transaction in the amount of US$ 55 millions to the Democratic Republic of Congo for the Mai-Ndombe Emission Reductions Programme (P160320).
http://pubdocs.worldbank.org/en/724541540553482191/pdf/P160320-PAD-14-september-2018.pdf
[4] Page 52: http://pubdocs.worldbank.org/en/724541540553482191/pdf/P160320-PAD-14-september-2018.pdf

WWC now agreed to reduce by 33 percent would meet all requirements set out in Chapter 9 of the draft TFS.

The verification body which approved baselines for five private sector REDD+ projects in Acre, Brazil, would also meet all requirements set out in Chapter 9. Yet, the independent certification body approved baselines for five private sector REDD+ projects in Acre that add up to these private sector REDD+ projects claiming at least 12,6 percent of Acre's jurisdictional province-wide alleged emission reductions while occupying only 3,7 percent or less of the forest surface of the state. Project documents and descriptions of the project areas suggest that the forest in the REDD+ project areas does not justify claims of higher than average carbon content.

5 Finally, let me point to two formulations in the draft TFS (let me at the same time state unambiguously that a future draft TFS resolving these formulation issues would not render the standard an instrument suitable for climate protection as it would not resolve the underlying contradictions and incoherence!):

(1) According to the draft TFS, "The reference level shall represent an historical average of gross emissions from deforestation and, if applicable, degradation, over a 10 consecutive year period referred to as the reference period. The [deleted in the revised version: first] reference period shall be a 10-year period *absent any influence from the jurisdictional sector-based crediting program* that ends no more than 24 [in the revised version:8] months prior to linkage with an ETS."

The underlined insertion is absent in the definition of the term "Reference Level", presented in chapter 1.2. Definitions and Abbreviations, and it is a peculiar insertion. What would this insertion mean, for example, for a jurisdictional REDD+ programme in the Brazilian state of Acre? Presumably, one of two things:

(a) On the basis of the insertion, the government of Acre might try to argue that 'influence from the jurisdictional sector-based crediting programme' started as early as 2012, when the first contract between the government of Acre and the German development Bank KfW for a jurisdictional REDD+ programme was announced. A reference level would then include the years 2002-2005, when deforestation rates were at their peak (not considering the recent return to exponentially rising deforestation rates in the Brazilian Amazon since 2017 which might top the previous peak deforestation rates). Including these peak deforestation years would yield a reference level far above a reference level comprising the most recent ten-year period from, say, 2008-2017. A look at actual figures demonstrates the scale of the difference: A reference level based on the period 2002-2011 would yield an average deforestation of ***480 km²*** per year while the reference level based on the period 2008-2017 would yield an average deforestation of ***268 km²***.[5] ***The difference between these figures is considerable – 212 km² – or 2,6 million t of carbon annually,*** based on the average figure of 123 t per hectare carbon in the Amazon forest in Acre, a figure commonly used by the government of Acre**.** It is thus obvious that any ambiguity in the parameters for calculation of

[5] Reference data used: from official Brazilian monitoring system PRODES: http://www.obt.inpe.br/prodes/dashboard/prodes-rates.html

the reference level could result in significantly different credit quantities available as 'credit', and call into question whether claimed reductions can be considered "real" reductions.

(b) Or, on the basis of the insertion, the jurisdictional sector-based REDD+ crediting programme currently in place in Acre may be ruled ineligible: Arguably, the existing jurisdictional REDD+ crediting programme currently in place has to be considered to have an influence in the meaning of the insertion. Because the jurisdictional REDD+ programme, and jurisdictional crediting, is currently in place, a reference period ending 24 [in the revised version: 8] months prior to linkage with the ETS would not be a period *absent any influence from the jurisdictional sector-based crediting program.* Would this rule out any jurisdiction such as the state of Acre that already has a jurisdictional sector-based crediting programme in place?

(2) The requirement for a "buffer pool" (note the argument above that a "buffer pool" does not address the uncertainty of permanence in carbon storage in forests) is described as follows: "The implementing jurisdiction shall contribute 10 percent of the total credits issued by the implementing jurisdiction per year, or the amount of credits identified by the buffer pool contribution equation based on the reversal risk rating factors identified in Subchapter 11.3, whichever is higher."

The draft TFS fails to clarify whether this requirement for a 10 percent set-aside in a "buffer pool" is a set aside exclusive to the California Cap-and-Trade scheme or whether a jurisdiction involved in multiple offset crediting programmes with different jurisdictions including California can use the same 10 percent "buffer pool" for all jurisdictional crediting programmes it is engaged in, including in California.

6 Finally, I would like to point out that the draft TFS is based on the untenable assumption that the climate impacts of fossil carbon and forest carbon are commensurate. They are not, as has been pointed out to the California Air Resources Board in earlier submissions on the topic of forest carbon offsets (Lohmann 2015: 51, McAffee 2015:47, Furtado 2015:14, to name just a few). Yet, nowhere do the draft TFS or the Draft Environmental Analysis presented alongside the Standard even acknowledge this crucial difference of the climate impact of forest and fossil carbon. Because the climate impact of fossil and forest carbon are not equivalent, no standard based on the false assumption that they are, can be considered to meet the general requirements set out in California's Cap-and-Trade Regulation, sections 95991-95994.

Not least because of the reasons stated above, I strongly urge the California Air Resources Board to reject consideration of the Tropical Forest Standard (TFS), and any attempts to accept REDD+ credits into California's carbon trading system.

Jutta E. Kill
Biologist
Berlin, Germany
juttakill@gmx.net

Selection of publications relevant to this submission:

J. Kill (2018): REDD Early Movers. Ergebnisbasierte Zahlungen ohne klimarelevante Ergebnisse? A critical assessment of the REDD Early Movers jurisdictional programme funded by the German development bank KfW in the Brazilian state of Acre. https://www.rosalux.de/publikation/id/38711/redd-early-movers/

J. Kill (2018): Envira REDD+ project in Acre, Brazil: Gold certificate from carbon certifiers for empty promises. https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/envira-redd-project-in-acre-brazil-gold-certificate-from-carbon-certifiers-for-empty-promises/

S. Counsell and J. Kill (2017): Public comment Mai Ndombe REDD+ project verification to the CCB standard. 07 September 2017. https://www.vcsprojectdatabase.org/services/publicViewServices/downloadDocumentById/28497

J. Kill (2016): The Kasigau Corridor REDD+ Project in Kenya: A crash dive for Althelia Climate Fund. Report published by Re:Common & Counter Balance. http://www.counter-balance.org/wp-content/uploads/2017/02/The-Kasigau-Corridor-REDD_Kenya.pdf

Jutta Kill (2015): Economic Valuation and Payment for Environmental Services: Recognizing Nature's Value or Pricing Nature's Destruction? https://www.boell.de/en/2015/11/06/economic-valuation-and-payment-environmental-services

World Rainforest Movement (2014): REDD: A Collection of Conflicts, Contradictions and Lies. http://wrm.org.uy/books-and-briefings/redd-a-collection-of-conflicts-contradictions-and-lies/