California Air Resources Board August 29, 2019

1001 I Street

Sacramento, CA95814

Dear California Air Resources Board members and staff,

I am a professor and researcher with approximately two decades of experience investigating the intersection of climate change mitigation in tropical forests and carbon markets. I submit this comment, not as a representative of any university to which I am affiliated, but as an individual and soon to be California taxpayer, as I have recently accepted a position at University of California-Merced. Given my significant field and desk-based research on this subject, I am compelled to submit a public comment to express my deep concerns about the Tropical Forest Standard (TFS) that will link California’s carbon market and legally required emission reductions to insecure and flawed offsets in tropical forests. The current fires raging in the Amazon and the destructive agricultural policies of Brazilian president Bolsonaro, provide startling reminders of the impermanence inherent in such offsets and the real dangers for California to include them as part of its climate strategy.

I want to be clear that I recognize deforestation as a major contributor to climate change and wholeheartedly support avoided deforestation and sustainable forest and land-use activities as important elements of the solution. However, carbon markets have proven ineffective at reducing forest-based emissions. In my view, the carbon market, which is designed as a cost efficiency mechanism, is deeply flawed when it intersects with forest ecosystems that are often considered the low hanging fruit for climate change mitigation. According to Nicholas Stern, “[c]urbing deforestation is a highly cost-effective way to reduce emissions[[1]](#footnote-1)” and this assumption has generally been the basis for investment in forest-based carbon offsets, particularly in tropical forests.

However, climate change mitigation in tropical forests requires an extensive and costly process of carbon monitoring and measurement, reporting and verification (MRV). The low carbon price combined with high costs of project implementation consistently fail to produce the finance necessary for transforming the economic drivers of deforestation. In the Amazon, the main drivers of deforestation are the large-scale production of soy, palm oil, beef and timber. As carbon market finance falls significantly below the opportunity costs of forest risk commodities, offsets tend to target local and Indigenous forest communities, who receive negligible financial benefits for their participation. This ultimately causes resentment as their traditional land uses are demonized, and resistance as these activities are blocked. This is deeply problematic because while local and Indigenous land-use practices that have been recognized for protecting forests are prevented, the main drivers of deforestation continue unabated. Therefore, serious climate justice concerns exist with such initiatives, which in the end, often lack sufficient local support to be successful. Jurisdictional programs that rely on subnational governments will suffer from similar problems given low and volatile market prices and constant political turnover that make long-term carbon storage in forests subject to reversals.

Therefore, I strongly recommend CARB not endorse the TFS that will link California’s carbon market to tropical forests, and instead consider alternatives. At the conclusion of the November 2018 CARB meeting Chair Nichols requested an exploration of alternatives to the TFS. While several alternatives exist, it is not clear that CARB has seriously considered any of them. Alternatives such as supporting local and Indigenous land rights and traditional forests practices, zero deforestation procurement policies and banning Amazon crude represent key alternatives that CARB should consider. Investing in a portfolio of these and other alternatives would send an important signal to other jurisdictions demonstrating an effective and equitable approach to climate change mitigation in tropical forests.

SUPPORTING THE ROLE OF LOCAL AND INDIGENOUS PEOPLES

Local and Indigenous peoples play a critical role in addressing climate change. In particular, secure land rights and support for Indigenous forest and agricultural practices can have significant climate benefits according to the recent IPCC report on land. Authors recognize that “Insecure land tenure affects the ability of people, communities and organisations to make changes to land that can advance adaptation and mitigation”[[2]](#footnote-2). The IPCC report also recognizes the importance of Indigenous Peoples land use practices for meeting the goals of the Paris Agreement. Authors argue, “[a]gricultural practices that include Indigenous and local knowledge can contribute to overcoming the combined challenges of climate change, food security, biodiversity conservation, and combating desertification and land degradation.[[3]](#footnote-3)” Therefore, alternatives to carbon markets include local community and Indigenous land rights, and support for their climate change and forest strategies.

DEMARCATION OF INDIGENOUS LAND

Indigenous lands have been proven to have an inhibitory effect on deforestation particularly at the forest frontier[[4]](#footnote-4). Even under population pressures and contact with the non-indigenous world, Indigenous communities tend to keep their forests intact[[5]](#footnote-5). While conservation areas are also effective strategies for protecting forests, they tend to be at farther distances from the frontier. Indigenous communities, therefore, hold the line against the movement of the deforestation frontier. Research shows that when Indigenous Peoples and forest communities have their land tenure rights recognized they are better stewards of forests than even governments[[6]](#footnote-6). Therefore, investment in Indigenous and forest community land rights is an important strategy for reducing deforestation.

LOCAL AND INDIGENOUS-LED FOREST MANAGEMENT

Indigenous peoples with a demonstrated history of sustainable forest management can provide critical guidance for building an alternative approach to climate change mitigation in forests based on traditional ecological knowledge. According to Rights and Resources Institute forests managed by Indigenous and local communities account for nearly 300 billion metric tons of carbon, equal to 33 times the global energy emissions for 2017. Therefore, one alternative promotes the development of Indigenous and community led climate change mitigation strategies in tropical forests. The Indigenous community of Sarayaku in the Ecuadorian Amazon, for example, has proposed a powerful model called Kawsak Sacha or the Living Forest, whichis a comprehensive proposal of the Kichwa people about living with the natural world in a sustainable and harmonious way. Kawsak Sacha also has important benefits for climate change mitigation and exemplifies the types of initiatives that should be supported, not through a carbon market or associated with offsets, but through other financial sources such as a fund.

ZERO DEFORESTATION POLICY

The UN’s sustainable development goals pledge to halt deforestation and biodiversity loss, protect and restore forests, and promote sustainable forest management by 2020[[7]](#footnote-7). A growing number of companies (such as Unilever and Ikea), countries (France and Norway) and several initiatives have made commitments to reduce deforestation. Key initiatives include the Consumer Goods Forum, a network of 400 of the largest consumer goods retailers that have committed to net zero deforestation by 2020. Emerging from the UN’s climate summit in 2014, the New York Declaration on Forests, is a voluntary and non-binding initiative to halve the deforestation rate by 2020 and end it by 2030. California might soon adopt such a policy as the state is poised to institute a zero-deforestation policy through the California Deforestation-Free Procurement Act (AB 572). This legislation would ensure that any company selling forest commodities (wood: paper and pulp, palm oil, soy, beef, coffee, cocoa, and rubber) to the state have a credible and robust *No Deforestation No Exploitation No Peat* policy and can provide evidence through regular monitoring and reporting. This is a step in the right direction.

BAN AMAZON CRUDE

California’s energy supply is deeply tied to the Amazon. The vast majority of Amazon crude is currently imported by the US and of the 23 US refineries that use Amazon crude 74% are located in California[[8]](#footnote-8). According to a report by Amazon Watch “California’s refineries are the worst offenders, processing an average of 170,978 barrels (almost 7.2 million gallons) of Amazon crude every day, accounting for roughly 60 percent of total global exports of Amazon crude from Ecuador, Peru, and Colombia, and 74 percent of all the Amazon crude exports that enter the United States.[[9]](#footnote-9)” The irony of the TFS is that it could benefit the same oil companies refining Amazon crude. According to Zoe Cina-Sklar of Amazon Watch, “TFS could allow oil refiners, which are purchasing oil from Ecuador to turn around and buy offset credits from the same regions in Ecuador that have been devastated by oil drilling”. Instead California should ban all imports from the Amazon which would not only help keep fossil fuels underground in the Amazon it would also help reduce the risk of deforestation from other forest risk commodities. Fossil fuel exploitation begins with the construction roads, which notoriously open up forests to further deforestation. Therefore, keeping fossil fuels underground in the Amazon through a ban on Amazon crude imports could help keep forests intact.

DIVESTMENT AND DEFORESTATION-FREE INVESTMENT

Another alternative strategy is divestment from companies associated with tropical deforestation and investment in sustainable alternatives. There has been a growing call for financial institutions such as banks and investors (including asset managers, pension funds and insurance companies) to address deforestation in tropical forests. Palm oil is the most rapidly growing driver of deforestation and has been the commodity targeted by countries and investment firms for divestment. Since 2012, Norway’s sovereign wealth fund, Government Pension Fund Global, with approximately $1 trillion in assets, has divested from more than 60 companies associated with deforestation, 33 of which produce palm oil unsustainably[[10]](#footnote-10). These companies are involved in the production of forest risk commodities particularly palm oil in the tropical forests of Southeast Asia, West Africa, and Oceania. In 2016, Dimensional Fund Advisors, a major US investment firm with $445 billion of assets, divested two of its sustainability portfolios of all palm oil plantation companies.

In this public comment, I have highlighted a few alternatives to the TFS that are recommended for CARB’s consideration. California is internationally recognized as an innovative and bold climate leader, however the TFS, which is rife with flaws, is not aligned with this vision. California has the opportunity to demonstrate true leadership by piloting alternatives to carbon offsets that are more effective, sustainable and just. If CARB members and/or staff have interest in further exploring the alternatives outlined in this statement and have any questions, I stand ready to support.

Most sincerely,

Tracey Osborne

Associate Professor

School of Geography and Development

University of Arizona

[tosborne@email.arizona.edu](http://tosborne@email.arizona.edu)

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2. IPCC, 2019. Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems. Intergovernmental Panel on Climate Change. [↑](#footnote-ref-2)
3. Ibid. [↑](#footnote-ref-3)
4. Nepstad, D., Schwartzman, S., Bamberger, B., Santilli, M., Ray, D., Schlesinger, P., Lefebvre, P., Alencar, A., Prinz, E., Fiske, G. and Rolla, A., 2006. Inhibition of Amazon deforestation and fire by parks and indigenous lands. *Conservation biology*, *20*(1), pp.65-73. [↑](#footnote-ref-4)
5. Ibid. [↑](#footnote-ref-5)
6. White, A., 2011. Cash alone will not slow forest carbon emissions. *Nature News*, *471*(7338), pp.267-267. [↑](#footnote-ref-6)
7. https://sustainabledevelopment.un.org/sdg15 [↑](#footnote-ref-7)
8. Amazon Watch., 2016. From Well to Wheel: The Social, Environmental, and Climate Costs of Amazon Crude. Oakland, CA. [↑](#footnote-ref-8)
9. Ibid [↑](#footnote-ref-9)
10. Taylor, M. 2019. Norway’s wealth fund ditches 33 palm oil firms over deforestation. *Reuters.* February 28, 2019. [↑](#footnote-ref-10)