

August 25, 2019

Dear members of the California ARB, and all other concerned,

I am writing after reviewing the updated TFS proposed. I was signatory to the letter of 110 experts who opposed the original proposal last November, and after carefully reviewing the updates to the proposal and continuing my own research on the relevant topics of leakage and environmental governance, I determined that I must continue to oppose this proposed TFS. In short, the TFS, even in its updated form, does not ensure that forests are actually protected, emissions reduced, and harm avoided, and most seriously, it contributes to an unscientific view that only market-based approaches to environmental governance (e.g. carbon trading) are “implementable” or “effective”, when mounting evidence shows quite the opposite. Endorsing the TFS, even in this updated form, *locks-in* market incentives that undermine global climate action that is proved to be effective, and causes harm to forest communities and younger generations worldwide, including here in California.

I will provide brief technical assessments of the key points where I see the updated TFS failing in its goal, emphasizing my own area of expertise in tropical and sub-tropical deforestation due to agro-industrial expansion, particularly in Brazil.

First, the updated TFS does not ensure that forests are actually protected. This is in large part due to the problem of *leakage* and lack of *permanence*. This issue was already outlined in our November letter, where citation was included to one of my scientific articles on the topic (Oliveira and Hecht, 2016). Most relevant updates pertain to Chapter 3 Sector Plan, pages 10-14. The updated TFS provides stronger language that requires sector plans to indicate “how an implementing jurisdiction is addressing the drivers of deforestation as well as identifying and addressing leakage risk through its policies and programs” (p. 10). Yet not matter how pure the intentions of the ARB and how strong the desire of those who back the TFS might be, such calls for institutional safeguards are no match for the economic incentives that the TFS would bring, and the implementation of this policy will most likely backfire and lead to more, rather than less, deforestation through problems of leakage.

This is evident in the way institutional protections of the environment in Brazil, for example, are being undermined during this very period in which the ARB is considering endorsing the TFS. Environmental institutions responsible for identifying leakage risks - including the production of basic scientific data about the extent and location of deforestation in the Amazon - have come under sustained attack by an anti-science administration, which has falsified government data, censored government employees from publishing scientific data, and when this anti-science zealotry was confronted by the leadership of the government institution responsible for producing this scientific data (the National Space Research Institute, IPNE), the current anti-science president of Brazil responded by firing the director of that institution.



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News articles about the current crisis in Brazil are legion, so I call attention to this one here merely as example (<https://www.theguardian.com/world/2019/aug/02/brazil-space-institute-director-sacked-in-amazon-deforestation-row>). The TFS calls for for sector plans that demonstrate how relevant jurisdictions are tracking and addressing problems of leakage - but that presumes such institutional mechanisms are more stable and less contested than they actually are, and if basic scientific data on deforestation in the Amazon can be scrapped like we witness before our very eyes, there can be no guarantee whatsoever that the implementation of the updated TFS won't unleash market forces that extend deforestation without accounting and accountability.

Moreover, I have also undertaken research (references below, Oliveira et al. 2017, German et al. 2017) on the related problem of activity-shifting and market-shifting leakage in the context of biofuels, and found – alongside a group of ten colleagues from top-tier academic institutions from the US, Canada, Germany, and Austria – that market-oriented policies seeking to reduce emissions from fuel consumption through encouraging biofuels actually contribute to a “Jevons paradox” of increasing resource use and emissions. The “Jevons paradox” was first documented scientifically in 1865, when the English economist William Stanley Jevons observed that technological improvements that increased the efficiency of coal-use did not lead to a reduction in coal-use due to greater efficiency, but rather led to the increased consumption of coal in more and more industries. Similar observations have been made since across various other sectors, and regarding not only increasing efficiency of production and use, but also regarding environmental regulations that depend upon increased efficiency of resource use, such as forests (and reduced emissions from deforestation and degradation, i.e. REDD).

In my own research on biofuels, my colleagues and I have demonstrated that the emissions-reduction intended from biofuels in the US, Brazil, and Europe have backfired. In fact, the government incentives for biofuel production, the environmental policies intended to sustain its positive effects, and the scientific standards by which such issues are supposed to be driven, have combined into a perverse incentive for increased emissions from fossil fuel consumption, increased deforestation, and reduced alternatives in transportation industry (as well as increased harm from the advancement of agro-industrial practices and displacement of indigenous peoples and poor peasants). The updated TFS does not escape such bleak forecast either, as its reliance upon strong market forces and weak institutional guarantees sets it up for failure due to a “Jevons paradox” of tropical deforestation: market-based regulations intended to increase the efficiency in the use of forest resources, such that more forests can be protected to accommodate for the continued emissions from other industries elsewhere, do not actually guarantee forests will be protected (due to the problem of leakage explained above) and do not guarantee emissions will be reduced (again, as explained above), so the market signals of the policy itself become yet another driver of deforestation.



Second, the updated TFS does not ensure that emissions are reduced. This follows from the first point made above. Even with its stronger, revised language, the TFS cannot ensure that forests are protected. Therefore, market-oriented mechanisms like this can become an instrument of greenwashing, justifying unsustainable practices among the carbon emitters who pay a nominal cost for this farce and façade, and promoting the extension of deforestation and other practices that degrade forests and other environments through the cover of unscientific policies or even anti-science zealotry. The knock-on consequences are a rise, rather than reduction, of overall emissions.

Third, the updated TFS does not ensure harm is avoided. This follows directly from the two points above, since the non-reduction of emissions and deforestation through greenwashing risks aggravating the global climate crisis we face, subjecting the most vulnerable to even worse impacts from forest fires, droughts, floods, and all the other forms of environmental disaster that become increasingly worse as we destabilize the climate. Moreover, the unscientific cover of “proper regulations” which are actually ineffective also empowers landowners, loggers, miners, and actors with nefarious purposes to extend violent approaches to indigenous peoples and environmental activists who oppose their expansion into forested landscapes. Once again, recent examples from Brazil are very telling, and I select the following report merely as one example among many, this one reported by the UN: “Murder of Brazilian indigenous leader a ‘worrying symptom’ of land invasion” (<https://news.un.org/en/story/2019/07/1043401>).

While the updated TFS does not encourage such violence, in fact it calls for sector plans that avoid it by adhering to the Governors’ Climate and Forest Task Force Guiding Principles for Collaboration and Partnership Between Subnational Governments Indigenous Peoples and Local Communities (GCF 2018) (page 11), the ARB must be savvy enough to understand that the TFS and the GCF 2018 do not have the power to actually curtail such practices. At best the government of California can withdraw participation in projects after significant harm has already taken place, become documented, and survived the exhausting struggle to bring it to surface and policy-making. The economic incentives unleashed by market-based regulations like the TFS, however, take place immediately and continue to be sustained during the entire period such harm is unfolding, being investigated, discussed, and perhaps belatedly curtailed. This is no safeguard against harm, pure and simple.

Fourth, the updated TFS locks-in market incentives that undermine global climate action that is proved to be far more effective than market-oriented regulations, and sustains an inaccurate and unscientific idea (an ideology) that only market-oriented regulations are “implementable” and “effective”. We in California have the potential and power to implement strong regulations that *directly* reduce emissions by curtailing them at their source, a source that is the fifth largest economy in the world. Deferred and indirect intended reductions, particularly when refracted through the distorting lens of market signals and cross-jurisdictional governance mechanisms, are not guaranteed, and may ultimately amount to mere greenwashing that protects emitters at home and deforesters worldwide.



There is absolutely no consensus in scientific scholarship on what is “implementable” and “effective” in terms of environmental governance, but what is clear is that the “common sense” in industrial and policy circles that only market-based regulations are “on the table” is a dangerously narrow, simplistic, and biased view that lacks strong evidence in history, geography, and the social sciences. Meanwhile, more politically “difficult” conclusions about the reality and risks of “greenwashing” and the possibility and need for stronger non-market regulations are repeatedly sustained by multiple scientists across various disciplines without any profit motive behind them. The ARB can accept the difficult responsibility to respond to scientific scholarship undertaken in the public interest, or cave in to the “common sense” pushed by special interests and ideological anti-science zealots.

Thank you for your time and consideration.

Sincerely,



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Additional references:

Oliveira, Gustavo de L. T., B. McKay, and C. Plank. (2017) “How Biofuel Policies Backfire: Misguided Goals, Inefficient Mechanisms, and Political-Ecological Blind Spots.” *Energy Policy* 108: 765-775.

German, L., A. Goetz, T. Searchinger, J. Tomei, G. de L. T. Oliveira, and C. Hunsberger. (2017) “*Sine Qua Nons* of sustainable biofuels: Distilling implications of under-performance for national biofuel programs.” *Energy Policy* 108: 806-817.

