

**Comment 1 for March 22, 2016 Cap-and Trade Workshop on Sector-Based Offsets  
(sectorbased1-ws) - 1st Workshop.**

First Name: Brett

Last Name: Byers

Email Address: Brett@rainforesttrust.org

Affiliation:

Subject: Comments on March 22, 2016 Cap and Trade Workshop

Comment:

Please see attached comments

Attachment: [www.arb.ca.gov/lists/com-attach/1-sectorbased1-ws-BWZXPgdrVmhWNQRq.pdf](http://www.arb.ca.gov/lists/com-attach/1-sectorbased1-ws-BWZXPgdrVmhWNQRq.pdf)

Original File Name: Comments on March 22 meeting.pdf

Date and Time Comment Was Submitted: 2016-04-05 11:15:47

No Duplicates.

## Comment 2 for March 22, 2016 Cap-and Trade Workshop on Sector-Based Offsets (sectorbased1-ws) - 1st Workshop.

First Name: Jonah  
Last Name: Busch  
Email Address: jbusch@cgdev.org  
Affiliation: Center for Global Development

Subject: Support for ARB staff thinking on technical design elements of sectoral crediting  
Comment:

Support for ARB staff thinking on technical design elements of sectoral crediting for tropical forests under AB32  
Jonah Busch, Ph.D.  
Senior Fellow, Center for Global Development (jbusch@cgdev.org)  
Berkeley, CA. April 5, 2016.

Dear Air Resources Board staff,

Thank you for the opportunity to comment on the ARB Staff Technical Paper of March 18, 2016[1] and the ARB slideshow presentation of March 22, 2016.[2]

I applaud and support the Air Resources Board staff in moving forward on technical design elements for sectoral crediting for tropical forests under AB32. Sound technical rules are necessary to ensure confidence by all stakeholders in the integrity of the credits used by regulated companies in California to offset their greenhouse gas emissions. By setting high standards for other states and provinces to follow, California can once again lead in the global effort against climate change.[3]

When it comes to developing rules for sectoral credits for tropical forests, there are important but surmountable design challenges. Fortunately there are many ways to get these issues right. The technical paper and slideshow show that ARB staff are considering the right issues and appear well on track to addressing these issues sensibly.

As ARB staff proceed thoughtfully in developing rules, they can draw upon several useful resources:

- The recommendations of the REDD Offsets Working Group[4]
- The Methodological Framework of the Forest Carbon Partnership Facility (FCPF) Carbon Fund[5]
- Bilateral agreements between tropical forest countries and states and European countries
  - Brazil and Norway[6]
  - Guyana and Norway[7]
  - Acre (Brazil) and Germany[8]
- The Jurisdictional and Nested REDD+ (JNR) Framework of the Verified Carbon Standards (VCS)[9]

Regarding specific technical design elements, ARB may consider the following feedback:

Scope: It is sensible to include activities that can be monitored using current technology (i.e. reductions in emissions from deforestation; potentially reductions in emissions from forest degradation) while leaving the door open to including at a later date activities that may be monitored with emerging technology (i.e. removals by forest growth).[10]

Crediting pathway: Partner states should issue, track, and sell credits. Partner states should be granted broad latitude to design their programs for reducing deforestation, including the ability to determine whether and how nested projects are potentially eligible, subject to California standards.

Reference Level: Historical annual emissions averaged over 10 consecutive years is an acceptable reference level and is consistent with Brazil's Amazon Fund and the FCPF Carbon Fund approach for most programs. In the future, ARB should consider allowing the use of upward-adjusted (e.g. projected) reference levels to accommodate states with high carbon stocks, historically low deforestation, and high deforestation threat.[11]

Carbon pools: Including aboveground biomass only is acceptable. In the future, including soils would be especially pertinent for tropical jurisdictions containing large areas of peat (e.g. Indonesia).

Crediting baseline: Establishing a crediting baseline slightly below the reference level to leverage partner states' own efforts to reduce emissions is acceptable, though not necessary. Caution is warranted—setting a crediting baseline too far below the reference level would dilute financial benefits to partner states that reduce emissions, undermining their incentive to participate.

Monitoring: ARB should develop quality standards rather than specifying a detailed set of procedures for measuring emissions. Several tropical countries (e.g. Brazil, Mexico) already employ sophisticated and reliable systems for measuring deforestation which can be leveraged and built upon.

Reporting: Creating general quality standards for reporting is acceptable. Requiring reporting at the end of each compliance period (e.g. every three years) would be sensible, with interim reporting potentially allowable to enable interim crediting.

Uncertainty: Small deductions or withholding of credits for more-uncertain emission reductions are acceptable, though not necessary. This so-called "conservativeness approach" would incentivize investments in improved monitoring capabilities.[12]

I would be happy to discuss any of the above issues with ARB staff in greater detail, if useful.

Jonah Busch, Ph.D. is an environmental economist and a Senior Fellow at the Center for Global Development. He is the author of 15 peer-reviewed articles on reducing emissions from tropical deforestation in academic journals including the Proceedings of the National Academy of Sciences, Climatic Change, and Environmental Research Letters. He served as Special Advisor to the President of Guyana during its negotiation of a bilateral agreement with Norway and as a Technical Advisor to the Carbon Fund during the negotiation of its Methodological Framework.

[1] "Evaluation of the Potential for International Sector-Based Offset Credits in California's Cap-and-Trade Program." ARB Staff Technical Paper, March 18, 2016.

[2] "Ongoing Evaluation of the Potential for Sector-Based Offset Credits in California's Cap-and-Trade Program." ARB Staff Slideshow, Marc 22, 2016.

[3] See: "Eight Reasons for California to Lead on Climate and Tropical Forests." Jonah Busch, Center for Global Development blog. <http://www.cgdev.org/blog/eight-reasons-california-lead-climate-and-tropical-forests>

[4] <http://www.arb.ca.gov/cc/capandtrade/sectorbasedoffsets/row-final-recommendations.pdf>

[5]

<http://www.forestcarbonpartnership.org/carbon-fund-methodological-framework>

[6] <https://www.norad.no/en/front/countries/latin-america/brazil/>

[7] <http://www.lcds.gov.gy/norway-partnership>

[8] <https://www.giz.de/en/worldwide/33356.html>

[9] <http://www.v-c-s.org/JNR>

[10] See: "Measurement and monitoring needs, capabilities and potential for addressing reduced emissions from deforestation and forest degradation under REDD+" Scott Goetz et al., Environmental Research Letters 2016

<http://iopscience.iop.org/article/10.1088/1748-9326/10/12/123001>

[11] See: "Comparing climate and cost impacts of reference levels for reducing emissions from deforestation" Jonah Busch et al., Environmental Research Letters 2009.

<http://iopscience.iop.org/article/10.1088/1748-9326/4/4/044006/meta>

[12] See: "Addressing uncertainty upstream or downstream of accounting for emissions reductions from deforestation and forest degradation." Johanne Pelletier et al., Climatic Change 2015

<http://link.springer.com/article/10.1007/s10584-015-1352-z>

Attachment: [www.arb.ca.gov/lists/com-attach/2-sectorbased1-ws-UCNUJ10sUnEBaAFz.pdf](http://www.arb.ca.gov/lists/com-attach/2-sectorbased1-ws-UCNUJ10sUnEBaAFz.pdf)

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Date and Time Comment Was Submitted: 2016-04-05 15:08:47

No Duplicates.

**Comment 3 for March 22, 2016 Cap-and Trade Workshop on Sector-Based Offsets  
(sectorbased1-ws) - 1st Workshop.**

First Name: Thomas  
Last Name: Vessels  
Email Address: tvessels@vesselscoalgas.com  
Affiliation:

Subject: Public Comments for Sector Based Offsets  
Comment:

Recommendation:

All initiatives, proposals, projects should be required to estimate their repair to climate damage and how many tonnes of Carbon Dioxide equivalent they will reduce in the next 20 years.

Specifically adopt the GWP factors from latest scientific study rather than the UN or USEPA factors.

It is an artifact of the early years of the climate change debate that we still use 100 years as the reference time frame for climate policies. The effect this has on the public mindset is to give the impression that climate change is a distant future's problem. The next 20 years are more critical. Science is ahead of policy.

At the Global Methane Forum in Georgetown, March 29, 2016 Drs. Drew Shindell and Johan Kuylenstierna jointly presented that reducing methane and black carbon in the atmosphere have the greatest impact in the next 20 years. For example they have calculated the GWP for methane over a 20 year period to be around 100 and over a 100 year period 40.

If we adopt a 20 year time period resources of all types will naturally move towards earlier cost effective solutions.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2016-04-08 12:23:48

No Duplicates.

## **Comment 4 for March 22, 2016 Cap-and Trade Workshop on Sector-Based Offsets (sectorbased1-ws) - 1st Workshop.**

First Name: Louis

Last Name: Blumberg

Email Address: lblumberg@tnc.org

Affiliation: the Nature Conservancy

Subject: Nature Conservancy comments on March 22nd workshop on sector-based credits from tropical  
Comment:

April 8, 2016

Comments of the Nature Conservancy on ARB sector-based credit workshop March 22, 2016

Thank you for the opportunity to submit comments on your workshop of March 22, 2016 focused on adding international sector-based credits to the AB 32 Cap and Trade program from tropical forest protection. The Nature Conservancy has extensive research and implementation experience in this issue and participated in this and many other workshops on this topic previously. In addition, Michelle Passero, Senior Climate Policy Analyst at the Nature Conservancy was a member of the REDD Offset Working Group (ROW) and participated in the development of its recommendations. Following are some comments to the issues and questions you discussed at the workshop.

- The Nature Conservancy supports the process ARB is conducting to develop and eventually adopt regulations to amend the AB 32 Cap and Trade program to include international sector-based credits from avoided loss of tropical forests. We urge ARB to continue this work expeditiously and complete the regulatory process so that credits can be approved and accepted in the third compliance period. We appreciate the detailed white paper and schedule you released last October. This action has allowed time for stakeholders to understand the issues involved in developing a draft regulation and to participate effectively in the several workshops you have been conducting this spring.

- A substantial body of high quality material has been developed to inform this process that should be useful to you:

- o Last year the UN Framework Convention on Climate Change completed its multi-year process of developing guidance for Reducing Emissions from Deforestation and Forest Degradation and Enhancement of Carbon Stocks (REDD+), addressing issues such as monitoring, MRV, baselines, and social and environmental safeguards.

- o Additionally, the ARB staff white paper from the October workshop and the paper for this March, 2016 workshop combined with the recommendations from the ROW provide information to address questions raised at the workshop. The Nature Conservancy supports the REDD Offset Working group (ROW) recommendations and suggests you refer to them in designing the proposed amendment.

- o Another resource that should be useful to you is the Carbon Fund Methodological Framework published by the World Bank's Forest Carbon Partnership Facility

- o "Protecting the Climate Forests," a report produced by the Commission on Climate and Tropical Forests is another applicable document that may be useful.

- As a general principle, we recommend that you provide a guidance framework that still provides flexibility in the rule for the host jurisdiction to craft a program that fits their particular circumstances. For example, the host jurisdiction is best positioned to understand when a change to its reference level is warranted, suffice that it still meets environmental integrity guidelines set by ARB.

- As for scope, we agree with staff and the ROW recommendation to begin by including reduced emissions from deforestation and forest degradation but recommend that ARB also allow for a jurisdiction with proven success in this realm to add reductions from carbon stock enhancements from reforestation, improved forest management and other activities to its program, as long as all significant sources of land-use emissions are also being addressed.

- A baseline should be consistent with UNFCCC guidance, and derived from the average emissions level from a recent ten year period consistent with the ROW recommendations.

- We support the ARB staff recommendation" to develop a set of quality standards and evaluate the design of a jurisdiction's own MRV program against those standards. The MRV program should be robust, transparent and consistent with UNFCCC guidance and the ROW recommendations. As recommended by the FCPF, the monitoring program should be able to detect reversals.

Thank you for the opportunity to comment on this process and for your good work developing the amendment to the Cap and Trade program to include sector-based credits from tropical forests. We will continue to participate in the process.

(these comments are also attached to ensure that the links connect)

Attachment: [www.arb.ca.gov/lists/com-attach/4-sectorbased1-ws-UycAaFAyAg5WMwlm.docx](http://www.arb.ca.gov/lists/com-attach/4-sectorbased1-ws-UycAaFAyAg5WMwlm.docx)

Original File Name: TNC Comments on ARB workshop March 22 fnl.docx

Date and Time Comment Was Submitted: 2016-04-08 13:15:11

No Duplicates.

**Comment 5 for March 22, 2016 Cap-and Trade Workshop on Sector-Based Offsets  
(sectorbased1-ws) - 1st Workshop.**

First Name: Gary

Last Name: Hughes

Email Address: ghughes@foe.org

Affiliation:

Subject: Comment Letter on Potential REDD Offset Program

Comment:

The attached letter is respectfully submitted for your consideration.

Attachment: [www.arb.ca.gov/lists/com-attach/6-sectorbased1-ws-VDJSO1UxUiwAc1Um.pdf](http://www.arb.ca.gov/lists/com-attach/6-sectorbased1-ws-VDJSO1UxUiwAc1Um.pdf)

Original File Name: FOE-US\_commentltr\_April8.pdf

Date and Time Comment Was Submitted: 2016-04-08 14:32:43

No Duplicates.

**Comment 6 for March 22, 2016 Cap-and Trade Workshop on Sector-Based Offsets (sectorbased1-ws) - 1st Workshop.**

First Name: Katie  
Last Name: Sullivan  
Email Address: sullivan@ieta.org  
Affiliation: IETA

Subject: IETA Comments on Sector-Based/REDD Offsets  
Comment:

Dear Staff,

On behalf of IETA, we appreciate the opportunity to share comments on ARB's Technical Workshop(s) and White Paper regarding the inclusion of international sector-based offsets into California's program.

Please contact me, if you have questions or require more information about IETA's attached submission.

Best,

Katie

Director, IETA  
www.ieta.org

Attachment: [www.arb.ca.gov/lists/com-attach/7-sectorbased1-ws-BWwAY1YjVmRQCQlq.pdf](http://www.arb.ca.gov/lists/com-attach/7-sectorbased1-ws-BWwAY1YjVmRQCQlq.pdf)

Original File Name: IETA Comments\_ARB Sector-REDD+\_8Apr2016.pdf

Date and Time Comment Was Submitted: 2016-04-08 15:11:58

No Duplicates.

## Comment 7 for March 22, 2016 Cap-and Trade Workshop on Sector-Based Offsets (sectorbased1-ws) - 1st Workshop.

First Name: Jason  
Last Name: Ko  
Email Address: jmko@fs.fed.us  
Affiliation: USFS

Subject: USFS Comments on Technical Paper  
Comment:

Hello,

Thank you for the opportunity to submit comments on this process as it develops. We applaud CA and ARB for leading the world in this area, including potentially expanding the program to provide incentives towards sustainable forest management and reducing deforestation in tropical forests around the world.

Comment 1) Firstly, we would like to direct you to two programs that USFS participates in, in collaboration with other federal agencies: 1) Silvacarbon and 2) SWAMP, focused on 1) enhancing capacity worldwide for monitoring and managing forest and terrestrial carbon and 2) to generate knowledge that is relevant to policymakers and practitioners regarding the sustainable management of tropical wetlands and wetland carbon.

[http://egsc.usgs.gov/silvacarbon/sites/default/files/SilvaCarbon\\_Fact\\_Sheet\\_September2015\\_0.pdf](http://egsc.usgs.gov/silvacarbon/sites/default/files/SilvaCarbon_Fact_Sheet_September2015_0.pdf)

<http://www.cifor.org/swamp/>

Both these initiatives represent cross USG agency collaborations that have developed many tools, research, and methodologies that California might want to consider as they move forward. Furthermore, SilvaCarbon and SWAMP might already be partnering with jurisdictional authorities in areas that California is looking at.

Comment 2) Where do the freely associated islands fit into the ARB process. Territories, if I understand correctly could be incorporated under the domestic program, but freely associated states? USFS Region 5 supports forestry programs through both our domestic and international programs in Palau, Marshalls, and Micronesia for example.

Comment 3) Leakage is a serious issue in tropical forest countries, that cannot necessarily be tracked in a compartmentalized way as it is in CA. China for instance imports raw materials and exports products around the world. Thus even robust jurisdictional integrity might have little affect on carbon at a global market where vertical integration is not contained in that same jurisdiction. Testing the globalization of the CA market is a worthwhile endeavor, but might not actually have the intended GHG reduction result desired in the near term.

Comment 4) Many researchers are working with LiDAR in tropical forests including Dr Greg Asner and Dr Sassan Saatchi. Additionally, there is not consensus that wall to wall LiDAR is the "best" or most cost effective tool to use for remote monitoring of forests. Other combinations of remote sensing technologies and tools such as those developed by Dr Matt Hansen and WRI also have value in different ways. Of course there is Japan, France, and the

EU as well. All with different methodologies, tools, and data. UNREDD vs FCPF. Thinking in the long term, developing countries often do not have the capacity to manage or analyze competing programs and tools. So setting specific technologies might significantly restrict which jurisdictions Ca is able to engage with.

Comment 5) Trying to align any guidelines and parameters as much as possible with those coming out of Warsaw and Paris would be very practical.

USFS looks forward to continuing to be involved with ARB as this process develops and is always available to provide support where appropriate.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2016-04-08 15:30:51

No Duplicates.

**Comment 8 for March 22, 2016 Cap-and Trade Workshop on Sector-Based Offsets (sectorbased1-ws) - 1st Workshop.**

First Name: William  
Last Name: Westerfield  
Email Address: [william.westerfield@smud.org](mailto:william.westerfield@smud.org)  
Affiliation: SMUD

Subject: SMUD Comments on Sector Based Offsets Workshop 3-29-2016  
Comment:

SMUD Comments on Sector Based Offsets Workshop 3-29-2016.

Attachment: [www.arb.ca.gov/lists/com-attach/9-sectorbased1-ws-UyAGbQdzBDMAWVc0.pdf](http://www.arb.ca.gov/lists/com-attach/9-sectorbased1-ws-UyAGbQdzBDMAWVc0.pdf)

Original File Name: SMUD comments sector offsets workshop LEG 2016-0282.pdf

Date and Time Comment Was Submitted: 2016-04-08 15:19:32

No Duplicates.

**Comment 9 for March 22, 2016 Cap-and Trade Workshop on Sector-Based Offsets  
(sectorbased1-ws) - 1st Workshop.**

First Name: Christina

Last Name: McCain

Email Address: cmccain@edf.org

Affiliation: Environmental Defense Fund

Subject: Sector-based offsets technical workshop

Comment:

Please find our comments attached.

Attachment: [www.arb.ca.gov/lists/com-attach/10-sectorbased1-ws-UDUAYI06BQkLbgZr.pdf](http://www.arb.ca.gov/lists/com-attach/10-sectorbased1-ws-UDUAYI06BQkLbgZr.pdf)

Original File Name: EDF\_cmmts\_CARB\_april\_2016\_final.pdf

Date and Time Comment Was Submitted: 2016-04-08 17:06:02

No Duplicates.

**There are no comments posted to March 22, 2016 Cap-and Trade Workshop on Sector-Based Offsets (sectorbased1-ws) that were presented during the Workshop at this time.**