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Re: Draft Washington-California-Québec linkage agreement, Publication 26-14-018

Clean Air Task Force ("CATF") respectfully submits these comments on the Washington State Department of Ecology's draft Washington-California-Québec linkage agreement.[1]

CATF is a nonprofit organization working globally to safeguard against the worst impacts of climate change by catalyzing the rapid development and deployment of low-carbon energy and other climate-protecting technologies. With more than 30 years of internationally recognized expertise on climate policy and law and a commitment to exploring all potential solutions, CATF is a pragmatic, non-ideological advocacy group with the bold ideas needed to address climate change. CATF has U.S. offices in Boston, Washington, D.C., and internationally in Brussels, Belgium, with staff working remotely around the world.

At CATF, the Land Systems program is working to enhance ecosystem carbon sequestration and storage in ways that do not deter emissions reductions. There is enormous climate mitigation potential in ecosystem-based solutions, including through protecting and enhancing long-term carbon storage in forests through reforestation, avoided conversion, and improved management.

CATF supports the State of Washington's Cap-and-Invest Program as an important regulatory tool for reducing carbon emissions and looks forward to more details of linking the associated allowance and offset markets with the already linked California-Québec market. These comments highlight a specific point of complexity embedded in the linkage agreement, which is the inconsistency in protocols for forest carbon offsets across the three markets. CATF has commended[2] the Department of Ecology on its proposed revisions to its forest carbon offset protocol via comments on the Chapter 173-446 WAC – Cap-and-Invest Offsets (U.S. Forest Protocol)[3] rulemaking process. Washington's strengthened draft forest carbon offset protocol rule would raise the bar for offset quality. Lower quality forest carbon offsets that could be generated from weaker protocols in the linked markets risk adversely impacting Washington's ability to achieve the emissions reduction limits established in RCW 70A.45.020,4 by allowing offsets based on protocols that our research shows are weaker than the Washington protocol and do not reliably guarantee that one tonne of carbon dioxide reduced or removed. Allowing offsets

[1] Washington State Department of Ecology. (2026, March). *Draft Washington-California-Québec linkage agreement* (Publication 26-14-018). https://apps.ecology.wa.gov/publications/summarypages/2614018.html
[2] Clean Air Task Force. (March 2026) Comment on Chapter 173-446 WAC: Cap-and-Invest US Forest Offsets Protocol https://scs-public.s3-us-gov-west-1.amazonaws.com/env_production/oid100/did200118/pid_212727/assets/merged/iz0rik56nr9_document.pdf?v=17999; Clean Air Task Force. (2025, August 19). *Washington released a draft forest offset rule, and there's a lot to like*. https://www.catf.us/2025/08/washington-released-a-draft-forest-offset-rule-and-theres-a-lot-to-like/
[3] Washington State Department of Ecology. (n.d.). *Chapter 173-446 WAC – Cap-and-invest offsets (U.S. forest protocol)*. https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-446-offsets-us-forest-protocol
[4] Revised Code of Washington § 70A.45.020. (n.d.). *Greenhouse gas emissions reductions—Reporting requirements*. https://app.leg.wa.gov/rcw/default.aspx?cite=70A.45.020

issued under weaker protocols to be claimed against emissions reductions obligations would jeopardize the requirement that the linkage agreement will not "adversely impact Washington's ability to achieve the emission reduction limits established in RCW 70A.45.020" as required by RCW 70A.65.210 *Linkage with other jurisdictions*. Therefore, **in implementing the linkage agreement, the Department of Ecology should require that forest carbon offsets purchased by Washington facilities meet the standards set by Washington's forest offset protocol. This will prevent the use of lower quality offsets and thus avoid undermining the goals of the Cap-and-Invest Program.**

CATF led a 2025 study[5] published in Earth's Future by a team of leading forest science experts that provides an extensive review of forest carbon credit protocols in North American voluntary and compliance carbon markets. The study provides a detailed scorecard for existing protocols as well as recommendations for strengthening protocols across the board to ensure reliably high-quality credits. Both the current California Offset Program US Forests Protocol (2015)[6] and the Québec Regulation respecting afforestation and reforestation projects eligible for the issuance of offset credits on privately-owned land[7] were included. Please see www.forestcarbonprotocols.org for details.

The proposed linkage agreement states that "any offset protocols in each of their respective programs should require that all offset emission reductions and removals of atmospheric CO_2 that may lead to the issuance of offset credits achieve the essential qualities of being real, additional, quantifiable, permanent, verifiable, and enforceable."[8] However, our research demonstrates that the current or proposed protocols for forest carbon offset credits in the three markets vary greatly in the robustness of their approach to these criteria, specifically the criteria of additional, quantifiable, and permanent. Specifically, the revisions to the Washington forest carbon offset protocol are significant improvements and make that protocol more robust than the California and Quebec forest offset protocols, and therefore more likely to reliably generate high quality credits. Including less robust protocols in the linked markets risks allowing lower quality offset credits, to be used by covered entities. Less stringent protocols could therefore fail to deliver on the promised climate benefits of offsets and affect the emissions reductions achieved in Washington and the overall program.

Here we discuss 1) general background and status of the forest carbon offset protocols, 2) project types covered by each system's protocol and differences according to the linkage criteria of 3) additional, 4) quantifiable, and 5) permanent. The differences documented herein are summarized in Table 1 and followed by detailed descriptions. This assessment of key differences among forest carbon offset protocols in the three markets proposed for linkage is not exhaustive,

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[5] Sanders-DeMott, R., Hutyra, L. R., Hurteau, M. D., et al. (2025). *Ground-truth: Can forest carbon protocols ensure high-quality credits?* Earth's Future, 13(5). https://doi.org/10.1029/2024EF005414

[6] California Air Resources Board. (2015, June 25). *U.S. forest projects: Compliance offset protocol (2015 forest protocol).* https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/compliance-offset-protocols/us-forest-projects/2015

[7] Government of Québec. (n.d.). *Carbon sequestration through afforestation or reforestation on private lands*. https://www.environnement.gouv.qc.ca/changements/carbone/credits-compensatoires/sequestration-carbone-boisement-reboisement-terres-prive-en.htm

[8] See Section 5. State of Washington Department of Ecology. (2026, March). Agreement on the Harmonization Of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement du Québec, the State of California, and the State of Washington (Publication 26-14-018). https://apps.ecology.wa.gov/publications/summarypages/2614018.html

as there are additional differences both among the linkage criteria addressed here and the additional linkage criteria (real, verifiable, enforceable) that we do not cover in this comment. However, the differences we document in protocol structure, applicability, and approaches to additionality, quantification, and permanence are very likely to lead to material differences in offset quality and make offsets non-equivalent across systems.

Table 1. Selected distinctions among forest offset protocols in relevant carbon markets. Approaches in bold font under the selected linkage agreement criteria were determined to be the most robust approaches according to our analysis and recommendations.

	CALIFORNIA	QUÉBEC	WASHINGTON
PROGRAM BACKGROUND AND PROTOCOL STATUS			
FOREST CARBON OFFSET CREDITS ISSUED TO DATE	~230 million	0	~0.5 million
GEOGRAPHIC CONSTRAINTS	Limited to United States	Limited to Québec	Limited to locations where direct environmental benefits to Washington can be claimed
PROTOCOL STATUS	Required update by 2029	No planned update, to our knowledge	Currently under revision, public draft available
PROJECT TYPES COVERED	Improved forest management, Avoided conversion*, Reforestation	Reforestation/Afforestation	Improved forest management, Avoided conversion*, Reforestation
SELECTED LINKAGE AGREEMENT CRITERIA FOR ALL OFFSETS			
ADDITIONAL	Improved forest management: • Baseline fixed over time • No limit to claiming credits above common practice baseline Reforestation: Relies on site eligibility conditions and the lack of legal requirements	Reforestation: Relies on site eligibility conditions and the lack of legal requirements	Improved forest management: • **Baseline updated every 10 years based on new data** • **Limits how far above the common practice baseline projects can claim credits** Reforestation: Relies on site eligibility conditions and the lack of legal requirements
QUANTIFIABLE	Improved forest management: Default leakage deduction of 20% applied to harvest reduction Reforestation: **Default leakage deduction applied to difference between project and baseline carbon stocks based on prior land use type**	Reforestation: Monitoring deforestation rates in the project municipality required at each issuance, with associate carbon stock change integrated in project modeling	Improved forest management: **Default leakage deduction of 40% applied to harvest reduction** Reforestation**:** **Default leakage deduction applied to difference between project and baseline carbon stocks based on prior land use type**
PERMANENT	**All types of projects monitored for 100 years** Risk assessment for fire and insects/disease fixed for all eligible geographic locations	Projects are certified for credits proportional to climate value of the amount of carbon stored for the length of time it has already been stored, under this approach that reversal risk accounting and monitoring is not required	**All types of projects monitored for 100 years** **Risk assessment for fire and insects/disease based on a spatially specific dataset for the project location**

* The California and Washington protocols are largely similar in technical approaches to avoided conversion projects, so while there may be administrative differences, we do not report distinctions for avoided conversion protocols in this comment.

I. Background on Forest Carbon Offsets across the Systems Proposed for Linkage

The California Cap-and-Invest Program was introduced in 2012 and the first forest carbon offsets were issued in 2013.[9] Since that time, the Compliance Offset Program within the broader Cap-and-Invest Program has become the largest market for forest carbon offsets credits originating in the United States.[10] Forest carbon offsets represent roughly 80% of all offsets issued through the program, with nearly 230 million forest carbon offsets issued as of April 2026.[11] The Québec Cap-and-Trade system was established in 2013 and linked to the California system one year later. While the Québec forest carbon offset protocol was adopted in 2022, there have not been any forest carbon offsets issued as of March 2026.[12] The more recent launch of the Washington Cap-and-Invest Program in 2023 has thus far resulted in the issuance of nearly 0.5 million forest carbon offset credits as of April 2026.

The three programs have distinct eligibility requirements, including geographic constraints. While the California Offset program allows for projects to be implemented anywhere in the United States, the Québec program restricts project implementation to Québec, and the requirement of the Washington program that all projects to have direct environmental benefits to the state limits geographical scope. It is important to note that based on these geographical requirements, forest carbon offset project developers in Washington state have the option to certify projects through both the California and Washington protocols.

Forest carbon offset protocols are also at different stages of revision in the three systems. The current version of the California forest carbon offset protocol was adopted in 2015, but in September 2025, California SB 840 was enacted and directs that all existing compliance offset protocols be updated by 2029 to reflect the best available science. While the revision of the California protocol has not yet begun, the revised version will be relevant to the linked market. At the same time, the Washington Department of Ecology is still finalizing its forest carbon offset protocol revision. CATF is not aware of any planned revision to the Québec protocol at this time.

II. Project Types Covered across the Systems Proposed for Linkage

There is a substantive distinction for forest offset credits across the systems that relates to the type of projects allowed, which can include:

- reforestation/afforestation,
- avoided conversion, and
- improved forest management.

The Québec protocol covers only reforestation/afforestation projects, which focus on planting new forests on land that has been deforested in the past or on land that was never forested. While

[9] California Air Resources Board. (n.d.). *Compliance offset program*. https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program

[10] Haya, B. K., Quartson, P., Bernard, T., Abayo, A., Rong, X., So, I. S., & Elias, M. (2026). *Voluntary registry offsets database (v2026-02)*. Berkeley Carbon Trading Project, University of California, Berkeley. https://gspp.berkeley.edu/berkeley-carbon-trading-project/offsets-database

[11] California Air Resources Board. (n.d.). *ARB offset credit issuance table*. https://ww2.arb.ca.gov/resources/documents/arb-offset-credit-issuance-table

[12] Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs. (n.d.). *Register of offset credit projects*. https://www.environnement.gouv.qc.ca/changements/carbone/credits-compensatoires/registre_creditscompensatoires-en.htm

the California and Washington protocols similarly include reforestation projects, they also allow for avoided conversion and improved forest management projects. Avoided conversion projects involve protecting forests that are at risk of being converted to another land use, such as deforestation for residential development. Improved forest management projects cover the adoption of a wide range of management activities in actively managed forests that boost carbon stocks, such as reduced logging or extended rotational age.

While all three types of projects can be beneficial, they have fundamentally different mechanisms of impacting climate. Reforestation/afforestation is widely considered to be a form of carbon dioxide removal[13] that draws additional carbon down from the atmosphere and locks it away in trees for decades to centuries. On the other hand, avoided conversion projects function by preventing a possible emission of forest carbon in the future if the area is ever deforested. The climate benefit of improved forest management varies by the specific practices adopted but may include both the preservation of existing carbon in the forest, for example when logging is reduced, and the addition of new carbon storage capacity if the management change involves more trees growing on the landscape. Therefore, improved forest management projects can be considered reduced emissions or carbon removal. While the Washington Cap-and-Invest system does not, at present, differentiate offset credits according to whether they represent carbon dioxide removal (CDR) or avoided/reduced emissions, this may become more important over time because these types of credits have different impacts on the climate. CDR draws carbon dioxide out of the atmosphere whereas an emissions reduction lowers the amount that enters the atmosphere. CDR is likely to become increasingly important for counterbalancing residual emissions from hard-to-abate sectors. To that end, the recent Carbon Dioxide Removal Evaluation Study calls on the Washington legislature to "direct appropriate agencies to adopt clear criteria defining how CDR methodologies can effectively contribute to the Washington's commitment to net zero emissions by 2050, pursuant to RCW 70A.45.020."

The different mechanisms of the three project types require very different approaches to some of the key criteria identified in the linkage agreement, in particular demonstrating that offsets are additional and quantifiable. All offset credits issued to date under Washington's system and over 90% of those issued under California's system are from improved forest management projects.[14] The California and Washington protocols are largely similar in technical approaches to avoided conversion projects. Therefore, while there are likely relevant administrative differences across the Washington and California systems for these project types, we do not report distinctions for avoided conversion projects in this comment.

III. Linkage Agreement Criteria for all Offsets: Additional

The criterion that offsets be additional involves demonstrating that the carbon stored would have ended up in the atmosphere without the implementation of the forest carbon project.

Additionality demonstration requires very different approaches based on project type. Although based on the same underlying protocol structure, there are important emerging differences in how additionality requirements are operationalized for improved forest management projects

[13] Intergovernmental Panel on Climate Change. (2022). *Carbon dioxide removal: Factsheet (AR6 Working Group III)*. https://www.ipcc.ch/report/ar6/wg3/downloads/outreach/IPCC_AR6_WGIII_Factsheet_CDR.pdf

[14] Haya, B. K., Quartson, P., Bernard, T., Abayo, A., Rong, X., So, I. S., & Elias, M. (2026). *Voluntary registry offsets database (v2026-02)*. Berkeley Carbon Trading Project, University of California, Berkeley. https://gspp.berkeley.edu/berkeley-carbon-trading-project/offsets-database

between the California and Washington offset protocols. The current California protocol entails demonstrating additionality relative to a baseline set once at the beginning of the project and fixed over the project lifetime in the absences of errors or reversals, an approach that scored weak in our assessment. In contrast, the draft rule for the revised Washington protocol will require re-estimation of the baseline every ten years based on an evolving dataset, which aligns more strongly with our report's recommendations for ensuring high-quality offsets as it is more likely to capture important changes impacting project additionality over time and to avoid over-crediting. In addition, while both systems rely on a baseline set systematically by the protocol as the average carbon stock in a relevant eco-geographical region, the California protocol allows projects to claim the full amount of project carbon stocks above that prescribed baseline value as carbon offset credits. This approach has been shown to lead to most projects sited in areas where initial standing carbon stocks are relatively high and risks crediting non-additional carbon.[15] The draft revision to the Washington protocol, however, limits the carbon credits that can be claimed from sites with unusually high carbon stocks at project initiation to better ensure that credits awarded are additional. This is an improvement over the approach required in the California protocol and is more likely to avoid over-crediting projects and generating lower-quality offset credits.

The additionality requirements for reforestation/afforestation projects are more straightforward and consistent across the three programs. All rely on strict eligibility requirements related to how long the land has been deforested prior to project implementation, a requirement that the activity not be legally required, and a modeled estimate of what carbon would have been stored over the project lifetime without the intervention. While there are differences in the operationalization of these requirements between the Québec protocol and the similarly structured California and Washington protocols, it is not immediately clear that they would have a demonstrable impact of credit quantification directly.

IV. Linkage Agreement Criteria for all Offsets: Quantifiable

A critical element of quantification for forest carbon offsets is estimating and accounting for any indirect emissions caused by the project implementation, a concept known as leakage. For forest carbon projects this entails assessing whether and to what extent the carbon project impacts land use activities and markets outside of the project boundary in ways that increase emissions elsewhere.

Like additionality, the treatment of leakage in protocols also depends on the project type considered. For improved forest management projects, both the California and Washington protocols use a default value to deduct credits based on any decrease in timber production due to activities adopted for the project, such as harvest reduction or extended rotational age. This is intended to account for the gap in supply created by the project implementation, which is expected to result in an increase in timber harvest and associated emissions elsewhere to meet unchanged market demand. The use of such a default value for all projects scored weak in our report. However, while in California the default value is set at 20%, there is a higher value of 40% in the proposed Washington protocol revision that is more likely to cover leakage emissions. This difference would lead to a difference in the number of credits issued from the

[15] Badgley, G., Freeman, J., Hamman, J. J., Haya, B., Trugman, A. T., Anderegg, W. R. L., & Cullenward, D. (2022). *Systematic over-crediting in California's forest carbon offsets program*. Global Change Biology, 28(4), 1433–1445. https://doi.org/10.1111/gcb.15943

same project since under the Washington protocol 40% of credits associated with timber harvest reduction would be deducted from the total while in California only 20% would need to be deducted. Therefore, the Washington protocol is more robust in ensuring that leakage emissions are accounted for, limiting over-crediting, and creating lower-quality offset credits. Québec does not allow for improved forest management projects.

For reforestation and afforestation projects, the California and Washington protocols use the same approach and quantify leakage deductions according to a decision framework related to the type of land use that is being replaced by the project. For example, whether the land was previously being used for livestock grazing or commodity crop production results in different leakage deduction values to account for emissions associated with market demand for those displaced activities. Deduction values range from 0% to 70% depending on the prior land use. This approach scored satisfactory in our assessment. The Québec protocol takes an alternate approach and requires data to be assessed on the rate of deforestation of privately held land in the municipality where the project is implemented during each reporting period for the project. If deforestation is detected, this forest cover loss must be incorporated into the model to determine the project outcome. This approach scored weak in our assessment, due in part to the limited geographical scope of the monitoring. The default fixed value approach used by the California and Washington protocols are likely to capture a different and more consistent rate of leakage deduction than the observed and then modeled approach in Québec, which also could lead to discrepancies in the number of credits issued to the same project.

V. Linkage Agreement Criteria for all Offsets: Permanent

The criterion that all protocols ensure offsets are permanent requires long-term protection and monitoring of stored carbon. For forest carbon projects, this means accounting for the vulnerability of carbon re-release to the atmosphere, for example by disturbances like fire or insect outbreaks.

In California, permanence for reversible removals has been codified as "at least 100 years."[16] Both the California and Washington forest carbon offset protocols require monitoring of forest carbon for 100 years for every credit issued, which our report scored as very robust. This monitoring is designed to ensure that stored carbon which has been certified into an offset credit remains in the forest, and to document and account for any carbon that has been lost to unforeseen events such as wildfires, mortality from insect or disease outbreaks, extensive storm damage, drought, and illegal logging or deforestation. Both protocols are structured so if carbon loss is observed, it can be quantified and compensated via a pooled buffer account of extra credits populated by all the projects in the system and set aside from market trade for this purpose. However, the approach to estimating and accounting for the risk to any given project and determining an appropriate buffer pool contribution varies. The California system uses a standard risk rate for wildfire anywhere in the United States, while the proposed protocol in Washington plans to use a spatially specific risk map that will be updated over time to guide risk assessment and buffer pool contribution based on specific project location. While the former

[16] California Code of Regulations, Title 17, § 95802. (n.d.). https://govt.westlaw.com/calregs/Document/I7A7F2C5E6B9B11E4B8C9D8E7A6C5B4A1 (defining permanent as "either that GHG reductions and GHG removal enhancements are not reversible, or when GHG reductions and GHG removal enhancements may be reversible, that mechanisms are in place to replace any reversed GHG emission reductions and GHG removal enhancements to ensure that all credited reductions endure for at least 100 years").

approach scored very weak, the latter embraces a key recommendation for protocol improvement that we call for in our report.

The Québec system takes a fundamentally different approach to the requirement for permanent credits. Rather than requiring 100 years of monitoring, the system uses innovative accounting based on the atmospheric warming impact of one tonne of carbon stored for one year relative to that of the same tonne of carbon stored for 100 years, and only issues a proportional amount of credit for each tonne of carbon based on the time the carbon has already been stored. With this approach, the Québec system does not require long-term monitoring since the small fraction of credits issued relative to tonnes of carbon stored have theoretically already achieved their climate impact at time of credit issuance. This approach, known as tonne-year accounting, has mixed evidence of efficacy in scientific literature.[17] It relies on modeled conversion factors that relate the impact of one tonne of carbon stored for one year to warming avoided from the same tonne over 100 years, but the models underlying those factors are uncertain. While the team of experts that contributed to our report had varying views on the promise of this approach, it scored very weak due to open scientific questions involved in the accounting.

VI. Final Recommendation

Given the differences documented here across protocols that are likely to impact offset credit quality, **we recommend that in implementing this agreement the Department of Ecology maintain the high standards for forest carbon offsets that it is establishing by requiring that forest carbon offsets purchased by facilities to meet compliance obligations in Washington meet the standards set by Washington's forest offset protocol.**

[17] Galik, C. S., Baker, J. S., Daigneault, A., & Latta, G. (2022). *Crediting temporary forest carbon: Retrospective and empirical perspectives on accounting options*. Frontiers in Forests and Global Change, 5, 933020. https://doi.org/10.3389/ffgc.2022.933020