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Re: Chapter 173-446 WAC: Cap-and-Invest US Forest Offsets Protocol Formal Comment Period

Clean Air Task Force ("CATF") and colleagues respectfully submit these comments on the Washington State Department of Ecology's proposed Draft US Forest Protocol (Chapter 173-446 WAC – Cap-and-Invest Offsets - US Forest Protocol).

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 25 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 offices in Boston, Washington, D.C., and Brussels, with staff working remotely around the world.

At CATF, our 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.

We led a recently published study in Earth's Future[1] by a team of leading forest science experts that provides an extensive review of forest carbon credit methodologies in North American voluntary and compliance carbon markets. The study evaluated protocols for afforestation/reforestation, improved forest management and avoided conversion project types, and included both the California Offset Program US Forests Protocol (2015) and the Climate Action Reserve US Forests Protocol v 5.1. Our assessment found that most protocols currently in use cannot guarantee that issued credits are high-quality. The study provides a detailed scorecard for existing protocols and recommendations for strengthening protocols across the board to ensure reliably high-quality credits. Our comments draw extensively from this peer-reviewed research. Please see **www.forestcarbonprotocols.org** for details.

We applaud the Department of Ecology's engagement of both the technical working group and the environmental justice working group in developing revisions to this rule. Given the intended use of credits derived from this rule as offsets for fossil fuel emissions under a compliance emissions cap and invest program, it is critical that the guidelines adhere to the highest standards to ensure each credit represents real reduction that adequately offsets a

[1] Sanders-DeMott, R, LR Hutyra, MD Hurteau, WS Keeton, KS Fallon, WRL Anderegg, DY Hollinger, SE Kuebbing, M Lucash, EM Ordway, R Vargas, WS Walker. 2025. Ground Truth: Can forest carbon protocols ensure high-quality credits? Earth's Future 13, e2024EF005414. https://doi.org/10.1029/2024EF005414

ton of fossil emissions. Weak credits risk compromising the efficacy of the Climate Commitment Act target of 95% greenhouse gas emission reductions by 2050. Therefore, CATF views many of the revisions outlined in the draft rule that improve rigor relative to the existing protocol as positive steps and urges the Department of Ecology to formally adopt these changes in the final rule along with the additional improvements we recommend below.

These comments offer support for many of the revisions proposed and highlight where they align with recommended improvements outlined in our recent study. In particular, we support:

1. The reduced timeline proposed for baseline recalculation, which introduces more dynamism to the approach to better reflect on-the-ground conditions over time;
2. The direct use of publicly available and independent data to establish common practice and risk values, which allows for timely data updates outside a rulemaking process;
3. The efforts to improve standardization and streamlining of additionality justifications with templates; and
4. Increased values for market leakage rate and for buffer pool contributions based on natural risks.

We make the following recommendations to both make necessary improvements to this current draft rule and to inform alternative approaches for future rulemakings that would further improve the reliability of credit quality. These include:

- Analyze how the revision constraining initial carbon stocks to the 90% confidence interval of the assessment area common practice value would function in practice using data from existing projects in the California market.
- Eliminate maximum buffer pool contribution for wildfire and biotic agents, and base the buffer pool contribution reductions awarded for treatment on rigorous scientific evidence and not default predetermined values. This would ensure an adequately capitalized buffer pool based on rigorous science.
- Incorporate site specific conditions, such as species composition, into the forthcoming dataset and tool for biotic risk estimation.
- Require the Department of Ecology to assign qualified real estate appraisers and project verifiers to individual projects to ensure objectivity in contract selection.
- For future protocol updates, adopt an empirical dynamic baseline approach in place of the common practice standard for additionality.
- For future protocol updates, consider commissioning a study to develop default market leakage rates specific to WA.
- For future protocol updates, consider developing an alternate approach to baseline setting for avoided conversion projects that uses existing data and tools to assess likelihood of forest conversion, rather than relying on real estate appraisals.

CATF has organized our comments around four specific revisions outlined by the Department of Ecology in Proposed revisions to U.S. Forest Protocol and fleshed out in detail in the Draft US Forests Protocol.

We would also like to highlight a similar process underway in the EU for their Carbon Removal and Carbon Farming Framework (CRCF). CATF is a member of their expert group and has submitted recommendations for their proposed afforestation methodology. The progress of their proposed methodology may be of interest to the Department of Ecology.

Revision 2. Revise IFM – private lands projects baseline quantification and crediting approach.

We support much of the proposed revisions to baseline setting for Improved Forest Management (IFM) on private lands. We agree that these revisions will result in a significant change to how credits are issued, and that these refinements are likely to improve the quality of forest carbon credits issued under the program. **However, in the long term we recommend that an empirical dynamic baseline be incorporated into the program in place of the common practice approach.**

- *10-year crediting and baseline period:* While the approach proposed here doesn't adopt our full recommendation of using empirical dynamic baselines, **we support reestablishing the baseline every 10 years as an important improvement over a fixed baseline for the project lifetime that balances improved rigor with providing certainty for a 10-year period.** This revision will incorporate a significant degree of dynamism to account for changing conditions over time, a key recommendation from our report, into the baseline estimation. In the future, empirical dynamic baselines should be evaluated and considered for further updates to the WA protocol. While this approach is new, empirical dynamic baselines are currently being market tested by Verra[2] and American Carbon Registry[3] in the voluntary carbon markets and are considered a promising approach by our panel of forest scientists.

- *Constraining initial carbon stocks (ICS) eligibility relative to common practice:* We support the effort to address over crediting of highly stocked forests relative to the program's assigned common practice baseline.[4] The proposed requirement that projects with initial carbon stocks outside the 90% confidence interval of common practice value be subject to a correction based on the width of the confidence interval may help address this issue. However, **we urge that the Department of Ecology to conduct a formal analysis to determine how this revision would in practice alter the number of credits issued for projects in WA. This could be done by examining data from existing markets to empirically understand the proposed policy's implications before adoption, and to make this assessment publicly available.**

- *Standard additionality reporting templates:* Our assessment of forest carbon protocols identified that excess flexibility in individual project developers' interpretation of additionality guidelines is a risk to credit quality, and therefore we support the idea of standardized templates to alleviate some of this concern. **How the templates are ultimately structured will be very important, and we recommend a detailed prescriptive approach, particularly as it relates to reporting of the financial viability of timber harvest.**

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[2] Verra. 2025. VM0047 Afforestation, Reforestation, and Revegetation, v1.1. https://verra.org/methodologies/vm0047-afforestation-reforestation-and-revegetation-v1-1/; Verra. 2025. VM0045 Improved Forest Management Using Dynamic Matched Baselines from National Forest Inventories, v1.2. https://verra.org/methodologies/methodology-for-improved-forest-management/.

[3] American Carbon Registry. 2024. Improved Forest Management (IFM) on Non-Federal U.S. Forestlands. https://acrcarbon.org/methodology/improved-forest-management-ifm-on-non-federal-u-s-forestlands/.

[4] Badgley, G., et al. 2022. Systematic over-crediting in California's forest carbon offsets program. Glob Chang Biol 28, 1433–1445. https://doi.org/10.1111/gcb.15943.

Revision 3. Revise leakage rate assumption for improved forest management (IFM) projects

We support efforts to revise the market leakage rate assumption and correction. There is evidence that the 20% value is too low and is not a suitable default.[5] **Increasing the default leakage rate from 20% to 40% as proposed in the draft rule is likely to increase the conservativism of the protocol and directionally reduce overcrediting and we support this revision to the rule.**

In the future, development of a more empirically based value could further improve the rigor of the protocol. While the 40% value[6] is based on a relatively recent meta-analysis of existing leakage estimates, this value is also a global average and not tailored to the context of Washington state and its forest markets. **To support strengthening this approach in future revisions to the rule, we recommend commissioning a study to develop a regionally representative value and to design a system that would allow that value to change over time based on reanalysis of market conditions outside of rulemaking.**

Revision 4. Adopt revised Common Practice statistics and updated assessment area dataset

We agree that updating the Assessment Area dataset and utilizing the EVALIDator tool with updated Forest Inventory and Analysis (FIA) plot data will strengthen this protocol through improved transparency and timeliness of data updates, especially since the draft protocol specifies that updates to the dataset may occur outside of rulemaking. This revision aligns with our recommendations for robust forest carbon credit protocols to rely on independently managed and up to date datasets where possible. **We recommend that the rule account for potential changes in availability or maintenance of the EVALIDator tool and the FIA dataset itself, by specifying that comparable datasets meeting the criteria for spatial resolution and above and belowground biomass reporting may be used to update the common practice values should the FIA data or tool ever become unavailable or outdated**.

Revision 5. Revise property appraisal requirements for avoided conversion projects, including third party verification of appraisal

The real estate appraisal approach to demonstrating project additionality and establishing a baseline was scored poorly ('very weak') by our panel of forest science experts who authored our recent assessment.[7] There are data and tools available to determine not only the value of land under alternate uses, but the likelihood of conversion based on key parameters such as rates of development, natural revegetation patterns, wetlands, flood zones, and priority conservation areas. For example, Thompson et al. (2017) demonstrate one approach that could be used to assess likelihood of forest conversion, with their work applied to New England.[8] **We urge the Department of Ecology to consider an approach that would utilize existing data to develop an**

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[5] Haya, B. K. 2019. The California air resources board's U.S. Forest offset protocol underestimates leakage. Retrieved from https://gspp.berkeley.edu/assets/uploads/research/pdf/Policy_Brief-US_Forest_Projects-Leakage-Haya_4.pdf

[6] Pan, P., Kim, M-K., Ning, Z., & Yang, H. 2020. Carbon leakage in energy/forest sectors and climate policy implications using meta-analysis. Forest Policy and Economics 115, 102161. https://doi.org/10.1016/j.forpol.2020.102161.

[7] Sanders-DeMott, R, LR Hutyra, MD Hurteau, WS Keeton, KS Fallon, WRL Anderegg, DY Hollinger, SE Kuebbing, M Lucash, EM Ordway, R Vargas, WS Walker. 2025. Ground Truth: Can forest carbon protocols ensure high-quality credits? Earth's Future 13, e2024EF005414. https://doi.org/10.1029/2024EF005414.

[8] Thompson, J. R., Plisinski, J., Olofsson, P., Holden, C. E., & Duveneck, M. J. 2017. Forest loss in New England: A projection of recent trends. *PLoS ONE* 12, 1–17. https://doi.org/10.1371/journal.pone.0189636.

empirical metric of conversion risk as our experts assert this would generate more robust measures of additionality.

However, if the appraisal approach is to be retained, improving transparency and eliminating real or perceived verifier conflict of interest is an important approach to improving carbon credit quality. The new requirement for two independent appraisers helps alleviate real or perceived conflict of interest for this element of avoided conversion projects. **We suggest clarifying in the rule, however, whether the forestry appraisal must also be duplicated or whether the two appraisers may use the same forestry appraisal. We also recommend that the Department of Ecology take an active role in maintaining a list of qualified project verifiers and real estate appraisers and assigning them to projects to help ensure objectivity in contract selection.** With this approach there is less probability of actors being able to preference appraisers likely to favor an intended outcome and it could replace the need for a duplicate appraisal.

Revision 6. Set buffer pool contributions in consideration of regional risks

We are very supportive of the revision to tie buffer pool contributions based on fire and insect/disease risk to spatially explicit, independent datasets that are updated regularly. This is a key recommendation of our report. We recognize that the ability of the Department of Ecology to update these values over time outside of rulemaking is critical to timeliness. **We recommend that the biotic risk data and tool allow for consideration of species composition at a specific project site.** We look forward to reviewing the dataset and quantification approach developed by SIG GIS.

However, the predetermined maximum buffer pool contributions for fire and biotic risks may undermine the improvements of this approach. **The buffer pool contribution should represent scientifically justified risk, and not be limited to a predetermined cap.** Furthermore, we urge the Department of Ecology to reconsider the 80% buffer pool contribution reduction offered for implementing risk reduction treatments, which very likely overcompensates for the actual risk reduction accomplished by treatments. **Risk reduction to buffer pool contribution should be updated to be based on rigorous scientific evidence[9] for each specific risk factor.**

Topic 8. Revise 100-year project commitment within the US Forest Protocol

In our recent assessment, the only feature rated as 'very robust' to 'exemplary' was the 100-year monitoring period (scoring 5.5 on a Likert scale from 0-6). The length of the monitoring period is a key component to ensuring the durability the carbon stored, which is of critical importance for the use of carbon credits as offsets for fossil fuels under a cap and invest system. **We support maintaining the 100-year monitoring period.**

Respectfully submitted,

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[9] Levine, J.I., C. Zehnd, L. Blanchard, J.C. Fickle, T. Lengyel, M. Liu, A.C. Post-Leon, C. Wu, H. Xu, L. Yang, W.R.L. Anderegg. 2026. Variable impacts of forest treatments on carbon and mortality following disturbance. Environmental Research Letters 21: 053002. https://doi.org/10.1088/1748-9326/ae4888

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