



March 13, 2026

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RE: Comments on U.S. Forest Protocol Rulemaking (Chapter 173-446 WAC), Version 1.0 Rule Language, March 2026

The American Forest Resource Council (AFRC) appreciates the opportunity to provide comments related to the proposed revisions to the U.S. Forest Protocol for forest carbon offsets under the Climate Commitment Act, through 173-446 WAC. AFRC submitted informal comments on January 26, 2022 and July 15, 2022, but did not comment during the CR-101 phase.

AFRC is a regional trade association representing forest products manufacturers, forestry contractors, local governments, and others who rely on and support the many benefits of active forest management in California, Oregon, Washington, Idaho, and Montana. AFRC works closely with federal and state forestry agencies, including the U.S. Forest Service, Bureau of Land Management, and Washington Department of Natural Resources (DNR) to promote sustained yield timber harvests on public timberlands throughout the West. Sustained yield forestry results in benefits to local economies, produces climate-friendly wood products (CORRIM 2005, 2010, 2017), and enhances forest health and resiliency to climate change, fire, insects, and disease. We also work to improve federal and state laws, regulations, policies and decisions regarding access to, and management of, public forest lands, the protection of all forest lands, and impacts to available timber supplies for our members.

Recommendation 1: Increase leakage rate for IFM projects

Overall, we support the proposed increase of the leakage rate assigned to Improved Forest Management (IFM) projects from 20% to 40% (revision 3). Haya and Stewart 2019 have calculated that there is nearly 82% leakage in California from the implementation of the CARB 2015 Forest Protocol. That means that 82% of the projects do not confer global greenhouse gas benefits because emissions occur elsewhere. Available information specific to Washington state supports a higher leakage rate, including for DNR state trust lands that are already managed to a longer rotation age.

On December 19, 2025, DNR submitted its final Carbon and Forest Management Work Group Report to the Legislature¹ in response to a \$2.3 million proviso in the 2023 capital budget to model different approaches for managing DNR state trust lands to understand how they could affect carbon storage, rural economies, trust beneficiaries, and the timber industry (enclosed). DNR contracted with ESSA to conduct a forest carbon quantification and Evergreen Economics to complete an economic analysis of the modeled approaches.

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https://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=WA%20DNR%20CFM%20WG%20Final%20Leg%20Rep%202025_58249638-bb5a-412b-a62c-702d354e8324.pdf

Eight different approaches (“scenarios”) were modeled, including extended rotation ages for DNR state trust lands in western Washington. The summary of the Evergreen Economics analysis includes the following findings related to leakage for proposals that defer harvests or extend rotation ages on DNR state trust lands:

“The overarching theme that emerged in our analysis is that harvest reductions and increased carbon sequestration on DNR-managed lands would lead to increased harvest and carbon emissions—leakage—on private lands that would negate most, if not all, of the carbon gains on DNR-managed lands. That leakage is most pronounced in the first few decades of the 100-year projection conducted by the Evergreen team and is mitigated to some degree by additional silvicultural activities on DNR-managed lands.”

The Evergreen Economics analysis also modeled the increased distances log trucks would need to travel under the different management scenarios. All of the management scenarios that involved longer rotations or additional harvest deferrals resulted in significant increases in log truck miles driven and CO₂ emissions:

“Like the carbon and harvest volume results, Evergreen presented their results as the difference between log hauling under Scenario 1, current practices, and the other scenarios. For example, under Scenario 2, lengthen harvest rotation, log trucks must travel 13,770,882 miles farther than they would under Scenario 1 in the first 25 years of the model simulation.”

Table 7: Differences in log haul over the first 25 years of the analysis period, relative to Scenario 1, all ownerships

Scenario	Miles per load	Total miles driven	Gallons of diesel	Metric tons CO ₂ emitted	Cost to mills
2: Lengthen rotations	1.21	13,770,882	3,053,203	31,160	\$65,404,289
3: Shorten rotations	(0.02)	(176,946)	(39,369)	(402)	\$72,385,004
4: Increase thinning	0.04	420,308	93,292	952	(\$6,446,852)
5: 2 + 4 + increase silviculture	1.41	16,184,147	3,590,512	36,644	\$150,666,076
6: 5 + increase deferrals	1.84	21,078,546	4,676,117	47,724	\$164,956,767
7: 4 + increase silviculture	0.19	2,170,950	481,776	4,917	\$643,255
8: 3 + 4 + increase silviculture	0.35	4,080,471	907,166	9,258	(\$16,676,160)

It does not appear that the proposed revisions to the U.S. Forest Protocol account for these emissions. Deferrals and increased rotation lengths result in reduced timber supplies here in Washington. Washington mills will look to neighboring states and provinces to secure needed log supplies. This merely shifts harvest emissions from Washington to elsewhere while also resulting in additional transportation-related emissions. Alternatively, other regions in the U.S. or globally will produce more wood products at the expense of Washington’s forest sector. If Washington mills reduce lumber production due to a lack of available timber, this lumber production and the related emissions will merely shift to another state or country to meet domestic demand – again, with additional transportation-related emissions.

The Consortium for Research on Renewable Industrial Materials (CORRIM) also finds that when Washington mills and are forced to access logs from other states the environmental footprint increases, such as a 37% increase coming from nearby Oregon. The United States already imports about 30% of its softwood lumber, including from far away countries like Germany, Chile, and Brazil.

Recommendation 2: Account for increased emissions from product substitution

We are concerned that no effort has been made to account for the emissions associated with product substitution in the revisions. Substitution occurs when a different product is used in place of the wood product that is withheld from the market by harvest deferral. In the case of softwood lumber, wood utility poles, and other wood products this substitution may occur with concrete, steel, or other composite materials that have much higher emissions associated with their production – leading to a net increase in carbon emissions due to the harvest deferral (e.g. Perez-Garcia et al. (2005a; 2005b), Hammond and Jones (2008), Oliver et al. (2014), Lippke et al. (2011a and 2019), Laurent et al. (2018), Puettmann et al. (2021)).

Published displacement and substitution factors are available to quantify the efficiency of using a wood-based product to reduce greenhouse gas emissions to the atmosphere compared to a non-wood alternative product (Sathre and O'Connor 2010; Leskinen et al. 2018) and they vary by end use (e.g. Lippke et al. 2011a, 2019, 2021). Lippke et al. (2021) used recently published life cycle assessment data for analysis that compares the carbon consequences of a ‘no-harvest’ alternative for Pacific Northwest forests to a range of alternative uses. They found that accounting for only the harvested wood products (e.g. no substitution or SWDS storage) generates 1.2 times greater benefits than no harvest alternatives. When substitution is considered, the carbon benefit increases to 1.6 – 5.9 times better than no harvest alternatives depending on end uses. These climate mitigation benefits are real, measurable, and predictable. Incorporating them into the U.S. Forest Protocol will be necessary to more accurately reflect the net carbon benefits of the forest sector in Washington state and issuing offset credits that are real, permanent, quantifiable, verifiable, and enforceable.

Substitution is likely far greater for DNR state trust lands, which are already managed to a longer rotation age which results in a greater diversity of log sizes that support a more diverse mix of products, including Douglas fir utility poles and cross-arms for which substitution is more likely and corresponds to more carbon-intensive alternatives.

In 2024, AFRC contracted with CORRIM and the University of Washington’s Center for International Trade in Forest Products (CINTRAFOR) on a case study² using data from a harvested DNR timber sale and publicly available U.S. Forest Service Forest Inventory and Analysis (FIA) data to conduct a full carbon accounting of a DNR timber sale using established life cycle assessment data on forestry, forest operations, and manufacturing of products that were produced from that sale (enclosed).

The timber sale used for the analysis was the Penny Alderwood Timber Sale in Jefferson County, Washington. The analysis relies on extensive data provided by the timber purchaser related to harvest operations, transportation distances, and the different types of wood products produced. Non-wood building materials, like steel and concrete, are nonrenewable and result in much larger carbon emissions and no long-term carbon storage. The case study includes numerous tables outlining substitution effects, including Table 6 for utility pole production:

² <https://amforest.org/wp-content/uploads/2024/02/CORRIM-AFRC-Penny-Final-Report.pdf>

Table 6 Carbon results for pole production from logs destined for pole facilities from the Penny Alderwood Harvest (PAH). Results are presented for single units one cubic meter (m3) and one pole for the substitution impacts. Results are also presented by equating the production, carbon storage, embodied carbon, and substitution impacts based on the harvest of pole logs from the PAH. Column 1 is the variable description, Column 2 is the unit used for column 3 and 4, Column 3 is the values for each variable in Column 1 per cubic meter of product or 1 pole (equivalent functional units) for the substitution comparison, Column 4 attempts to equate the variables in Column 1 scaled to what was harvested from the PAH for poles.

1	2	3	4
		per m3 of product	PAH
Poles			
Log input, m3		1.00	343
		per m3 of product	PAH
Poles			
Production, untreated	m3	1.00	343
Product mass, untreated	kg	490.00	167,850
Embodied carbon, untreated	kg CO2e	14.64	5,015
Embodied carbon, treated	kg CO2e	345.45	118,335
Carbon storage	kg CO2	898.33	307,724
Net - Carbon emissions - treated	kg CO2e	(552.88)	(189,389)
		per m2 of wall	m2 equivalent to PAH
SUBSTITUTION			
Poles	qty	1.00	519
Mass of pole(s), untreated	kg	323.40	167,850
Embodied carbon, penta treated	kg CO2e	228.00	118,335
Embodied carbon, galv. Steel	kg CO2e	3,190.00	1,655,658
Embodied carbon, concrete	kg CO2e	1,699.00	881,807
Embodied carbon, steel + concrete average	kg CO2e	2,444.50	1,268,733
Carbon storage in wood pole	kg CO2e	592.90	307,724
Carbon storage in steel pole	kg CO2e	-	-
Carbon storage in concrete pole	kg CO2e	-	-
Net - carbon emissions steel	kg CO2e	(2,962.00)	(1,537,323)
Net - carbon emissions concrete	kg CO2e	(1,471.00)	(763,4713)
Net - carbon emissions average	kg CO2e	(2,216.50)	(1,150,397)
Avoided emission by using Wood pole over average steel and concrete pole	kg CO2e	2,216.50	1,150,397

Recommendation 3: Include safeguards to avoid adverse socio-economic and carbon impacts resulting from the loss of forest sector infrastructure due to reductions in timber supply; Remove the HUC 14 forest area enrollment requirement

Extending harvest rotations under IFM projects will result in reduced harvest volumes in the short term. This reduction could have serious negative localized impacts on the milling, trucking, and forest contractor components of the forestry sector and the rural communities that depend on our industry. We agree with a recommendation made by Hampton Lumber (an AFRC member company), in an August 18, 2025 comment letter to the Department of Ecology:

“We request that Ecology condition project enrollment on modeling that evidences cumulative impacts of forest offset projects in any given wood basket will fall below a regulatory threshold. Rural communities stand to bear a disproportionate economic burden under the Cap-and-Invest program and the state has a responsibility to examine and address potential impacts to fiber supply in a meaningful way.....

In our view, the forest offset protocol should incorporate a test for project enrollment that hinges on wood fiber availability in individual wood baskets. For instance, we would propose that project developers announce their projects for some period of time in advance – maybe two years – and then at the close of that period model the impacts associated with all other projects then-existing or announced during that two-year period. If those cumulative impacts would reduce fiber availability in the wood

basket by more than a regulated threshold (e.g., 5%) relative to baseline, then the project would be asked to produce offsets in some other manner, or be withdrawn. Otherwise, project enrollment would proceed in the order of announcement and approval (i.e., first-come, first-served).”

The loss of industry infrastructure also has consequences for carbon emissions. Infrastructure losses threaten timber markets for private forestland owners and our ability to treat overstocked forests at risk of catastrophic wildfire, including federal forestlands. For example, the Hampton Lumber sawmills in Morton, Randle, and Darrington provide critical markets for forest health and fuels reduction treatments east of the Cascades. The loss of forest product milling markets for private forestland owners also increases the pressure to convert these lands to non-forest uses, including development. Both of these outcomes would result in significant carbon emissions and reinforce the need to include safeguards to prevent significant, localized reductions in fiber supply.

We also ask that Ecology remove the requirement that a project proponent enroll all forested areas in their ownership within the HUC-14 hydrological unit into the program as it increases the localized impacts on fiber supply, thereby threatening fiber supply for local mills.

Recommendation 4: Account for the different constitutional, statutory, and regulatory requirements for the management of DNR state trust lands.

DNR manages over two million acres of forested state trust lands for sustainable timber production to generate revenue for schools, local governments, and other public services. These lands were granted to the State of Washington at statehood by Congress or through escheat by counties following the Great Depression. The management of these lands is guided by a trust mandate spelled out in the federal Washington State Enabling Act, the Washington State Constitution, and state laws that establish a fiduciary obligation between the State of Washington, through DNR, and the beneficiaries.

In addition to DNR’s fiduciary obligation to the trust beneficiaries, state law also requires that these lands be managed for ongoing, sustained yield harvests. [RCW 79.10.320](#) requires DNR to “manage the state-owned lands under its jurisdiction which are primarily valuable for the purpose of growing forest crops on a sustained yield basis insofar as compatible with other statutory objectives. To this end, the department shall periodically adjust the acreages designated for inclusion in the sustained yield management program and calculate a sustainable harvest level.” [RCW 79.10.310](#) defines “sustained yield plans” as the “management of the forest to provide harvesting on a continuing basis without major prolonged curtailment or cessation of harvest.” DNR also manages under a different Habitat Conservation Plan, riparian buffers, and old-growth retention requirements.

These statutory, regulatory, and legal obligations should be recognized in the protocol and legal constraint tool. The protocol must also recognize that DNR state trust lands are managed differently than private industrial lands. Section 6.2.2 of the draft methodology establishes a potential 60-year stand-age baseline for public lands. However, many harvestable stands of timber on DNR state trust lands are older than 60 years. Any baseline should be developed with site-specific information.

Recommendation 5: Forest offset protocols should accurately account for carbon stored in both forest and wood product carbon pools

We support continued updates to Ecology’s Protocol that reflect the best available science, robust data, and credible carbon accounting frameworks for carbon stored in both forest and wood product carbon pools. We are particularly interested in seeing a better accounting of, and credit for, the carbon stored in wood products produced locally utilizing mill data specific to Washington state.

Thank you for the opportunity to comment.

A handwritten signature in blue ink, consisting of several overlapping, horizontal, scribbled lines that form a stylized, elongated shape.

Heath Heikkila
Director, Government Affairs

Enclosures (2)

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