



Northwest Pulp & Paper ASSOCIATION

September 3, 2025

Submitted Via <https://ecology.commentinput.com/>

Adrian Young
Washington Dept. of Ecology
300 Desmond Dr SE
Olympia, WA 98504

Dear Adrian,

Thank you for the opportunity for the Northwest Pulp & Paper Association (NWPPA) to provide comments on Ecology's report to the Legislature on EITE allocation for 2035-2050.

Introduction

NWPPA is a 69-year-old regional trade association representing 11 member companies and 13 mills in Washington, Oregon, and Idaho, seven of which are located in Washington. Our member mills in Washington provide approximately 4,000 union-backed, family wage jobs in some of Washington's more rural, economically distressed communities. Mills provide a 3:1 job multiplier and are often the single largest taxpayer in these communities, a large portion of which is distributed as funding for schools and emergency services. Our members are also state and federally recognized essential businesses who keep vital paper products available across the United States and abroad.

Washington's pulp and paper mills have long been seen as an integral part of the state's greenhouse gas (GHG) reduction strategy. HB 2528, passed in 2020, recognizes the state's forest products sector – from working forest lands to finished forest products like pulp and paper – as a part of the state's global climate response. Additionally, the state's climate response strategy under RCW 70A.45.090, formally recognizes Washington's forest products sector, including landowners, mills, bioenergy, pulp and paper, and related harvesting and transportation infrastructure, as providing significant net carbon sequestration benefits. The energy generated and finished products manufactured at mills in Washington have been and will continue to be crucial in helping the state work toward achieving its ambitious GHG reduction goals and Ecology's policy recommendations should reflect this for our sector.

NWPPA has appreciated being included in Ecology's report development process over the past year. The comments below reflect feedback that has been shared over the course of Ecology's stakeholder engagement, as well as document specific comments.

General Comments

Legislative Intent

An expressed intent of the legislature in SB 5126, the enacting legislation of Washington's Cap and Invest Program (program), is to "(a) limit and reduce emissions of greenhouse gas consistent with the emission reductions established in RCW 70A.45.020; (b) minimize the potential to export pollution, jobs, and economic opportunities; (c) support industry

sectors that can act as sequesters of carbon; and (d) reduce emissions at the lowest cost to Washington's economy, consumers, and businesses." This intent aligns with the design of current EITE provisions and treatment under the program. It also makes clear that the design, implementation, and evolution of the program, including the treatment of EITE industries, must not only maintain the objective of reducing GHG emissions but must also of minimizing the export of pollution, jobs, and economic opportunities. This is one of the primary reasons that Ecology's directive in RCW 70A.65.110 (4)(a) specifically addresses methods and a schedule for the continued provision of no-cost allowances to EITEs, as well as best practices for ensuring against leakage and economic harm.

Leakage and Economic Harm

As is the case for many EITEs, Washington's pulp and paper mills are highly susceptible to leakage. This occurs when production and the associated emissions shift to another jurisdiction, particularly ones without Washington's stringent regulatory landscape, thus resulting in an increase in total GHG emissions. For example, if just 5% of Washington's pulp and paper production shifted to Canada, it is estimated that annual GHG emissions from purchased electricity would increase by 34,000 mt CO_{2eq}. If shifted to China, it is estimated that annual GHG emissions from purchased electricity would increase by 260,000 mt CO_{2eq}.

It's also important to note that leakage is market driven, and for NWPPA's members can occur in a variety of ways. Several members are part of large integrated companies, which means that in addition to the sector-level risk of domestic and international leakage, there is a risk that production from a facility in Washington can fairly easily be shifted to another facility within the same company. With this in mind, further consideration should be given to the conflicts that exist between the state's GHG reduction goals and the Legislature's objective of avoiding the export of pollution, jobs, and economic opportunities

In addition to emissions leakage, shifting production to other states and countries has significant economic implications for the communities in which these mills operate. As is noted in the report commissioned by Ecology from the Eastern Research Group (ERG) on market impacts and environmental justice concerns, there are three layers of economic impacts – direct, indirect, and induced. Going beyond just jobs and spending, these facilities are often large utility customers in these communities and facility closures can, and have, resulted in increased utility costs for residential, commercial, and other industrial rate payers.

Many EITEs have addressed this during advisory group meetings, but it's important to note that while statute classifies leakage fairly narrowly as emissions shifted to other jurisdictions, there are numerous other impacts to these communities. Six pulp and paper mills have closed in Washington since 2015 – costing these communities dearly. The closure of a single mill can cost a community tens to hundreds of millions of dollars per year in lost revenue and spending.

While the ERG report does cover some of the economic impacts, it does not fully capture the value of these facilities. A comprehensive leakage analysis, similar to the one done by Vivid Economics in 2018 for the Oregon Carbon Policy Office, should be conducted prior to any new policy development or implementation.¹

No Cost Allowances

It's important to note that the need for consistency and predictability is an ongoing concern NWPPA members. The allowance schedule that has been implemented through 2034 has done just that – offered covered entities a predictable roadmap for the first few compliance periods.

As is noted throughout the six documents, continuing to provide no cost allowances to EITEs is the primary best practice for avoiding leakage. NWPPA agrees that continuing to provide Washington EITEs with no cost allowances is imperative

¹ See: https://www.nwpulppandpaper.org/_files/ugd/382624_718723b43ae6401881825e3fea9ee11a.pdf

to avoid leakage. Additionally, it is important to continue the predictability and consistency associated with a reasonably achievable schedule in the reduction of allowances allocated for EITEs.

Decarbonization

A key concern for Washington's pulp and paper sector is that many of the critical processes within a mill are considered hard to decarbonize. Many of Ecology's proposals are intended to increase and expedite decarbonization efforts for EITEs. However, it is important to note that, prior to any legislative or regulatory mandate, the pulp and paper sector has achieved notable emissions reductions. In a study by NCASI², historical energy and production data for the United States pulp and paper industry were synthesized from several public and industry datasets to calculate greenhouse gas (GHG) trends for the industry on intensity (mass of GHG emissions per unit of production) and absolute (mass of GHG emissions) bases. Since 1990, reductions in direct emissions for the industry have been approximately 50% on both absolute and intensity bases. Reductions in GHG emissions attributed to purchased electricity have been approximately 44% on an intensity basis and 48% on an absolute basis, and reductions have accelerated with accelerated greening of the electricity grid since 2008. Since 2005, the reductions in direct and indirect emissions have been 31% and 37%, respectively. GHG reductions for the industry have been driven by reductions in facility energy intensity over time, fuel switching from more GHG intense fuels to less GHG intense fuels, and, since 2000, production reductions within the sector.

Technology Availability

Washington's pulp and paper mills have spent hundreds of millions in capital investments on technologies to increase efficiency and reduce emissions. Many of the policy options considered by Ecology fail to take into consideration which sectors have already achieved many of the reasonably implemented reduction technologies.

Combined heat and power (CHP), also known as cogeneration, is a widely used energy efficient method of steam and electricity generation in the pulp and paper sector. One advantage associated with CHP is that onsite power generation through the use of biomass offers a cleaner, more transparent GHG emissions profile than a facility could obtain through purchased electricity. Another added benefits of CHP is that it reduces grid dependency, particularly during power disruptions or outages.³ Unplanned power outages can create catastrophic environmental and safety consequences on a mill site, particularly as it relates to air and water treatment systems.

According to the American Forest and Paper Association (AF&PA), in 2022, 57% of the electricity needs to power AF&PA member processes was self-generated. Additionally, 43% of member mills generated more than half of their needed electricity and 20% of member mills sold excess power – much of it renewable – to the grid. Additionally, an analysis published by the Rocky Mountain Institute (RMI) estimates that the expansion of biomass cofiring in auxiliary boilers could reduce process and fossil CO₂ by an additional 15%-30%.⁴ This emphasizes the fact that Washington's pulp and paper mills are currently utilizing a technology that aligns with Washington's GHG reduction goals.

Shifting focus to electrification technologies, RMI's analysis identifies electrification of low-and-medium pressure steam generation as a medium-term opportunity for pulp and paper. We believe that this timeline is overly optimistic for availability and deployment of electrification technologies in the U.S. pulp and paper sector. The leading electrode boiler technologies currently being developed in Europe have not yet been certified by the American Society of Mechanical Engineers (ASME), especially at the capacities, steam pressure and temperature levels needed in the pulp and paper sector. The GHG benefits of electrification assume that fossil fuels used for steam generation are being displaced by zero carbon electricity such as hydro-electric, nuclear, solar, or wind for

² See: <https://www.ncasi.org/resource/greenhouse-gas-reductions-for-the-us-pulp-and-paper-industry/>

³ See: https://www.ncasi.org/wp-content/uploads/2024/09/NCASI_FS-24-05_Forest-Products-Industry_9.2024-1.pdf

⁴ See: <https://rmi.org/insight/opportunities-for-industrial-modernization-in-washington>

steam generation (McKinsey & Company 2018)⁵. Since the pulp and paper sector utilizes predominantly low GHG and energy efficient biomass-based combined heat and power systems to generate steam and electricity, electrification of pulp and paper energy systems may not achieve GHG emission savings, even in locations like Washington where the electrical grid is primarily supplied by hydro-electric power.

Lastly, another medium-term opportunity identified by RMI is blending lower carbon fuels for use in lime kilns and auxiliary boilers. In addition to process technology concerns relative to the use of these fuels, alternative fuels such as green hydrogen are not currently available in the necessary volumes to meet regional demand. The use of gasified biomass residuals to replace fossil fuels within lime kilns appears to be the most promising substitution technology to replace fossil fuels within pulp and paper industry lime kilns⁶, but would require substantial capital investments to install within Washington chemical pulp and paper mills.

Grid Capacity

Throughout the stakeholder process, NWPPA has expressed concern regarding available electricity, grid capacity and the region's growing demand for clean energy. Washington's annual electricity demand is expected to increase by 20.4% over the next ten years.⁷ This is attributable to things like residential and commercial building electrification, vehicle electrification and charging stations, new data centers to compete with the growing demand for AI, crypto mining, decarbonization policies for manufacturers, etc.⁸ Even if electrification technologically eventually becomes available on a large scale for the pulp and paper sector, in Washington, there may not be sufficient baseload electricity generation available in the Western U.S. to move to electrification of industrial facilities like pulp and paper mills.

It is estimated that sector-wide adoption of the pulp and paper electrification recommendations in RMI's analysis would increase annual electricity demand for the sector by 3,574 GWh by 2050⁴. This demand would create an even greater strain on a system that is already struggling to keep up with regional growth and other climate-related policies. While we do not believe that boiler electrification for the pulp and paper sector is a near or even medium-term technology, we agree with Ecology's inclusion of a complimentary measure in Document 6, Appendix 1 to expedite electrical grid enhancements to meet growing regional demand and to prepare for future opportunities in industrial electrification.

Document 1-6 Specific Comments

Document 1: Best Practices for Avoiding Leakage

NWPPA members are highly susceptible to leakage, both domestically and globally, to states and countries that do not have the same rigorous regulatory standards as Washington. While we understand that for the purpose of this report, Ecology has elected to adhere to fairly narrow definitions of leakage and economic harm, it is important to note that the two are inherently linked together and tied to a number of other factors. The closure of a facility in Washington not only risks emissions leakage to jurisdictions with less rigorous regulatory standards but also removes economic activity from those communities, which can ripple throughout a region.

The purpose of EITE assessments is to determine if facilities within a sector may be at risk of leakage due to carbon policy. Leakage risk can be determined through either energy intensity or emission intensity. When cap and trade was

⁵ See: McKinsey&Company. June 2018. Decarbonization of industrial sectors: the next frontier.
<https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Sustainability/Our%20Insights/How%20industry%20can%20move%20toward%20a%20low%20carbon%20future/Decarbonization-of-industrial-sectors-The-next-frontier.ashx>

⁶ See: <https://www.ncasi.org/resource/toward-a-net-zero-future-in-the-forest-products-industry-wp-23-04/>

⁷ See: <https://feature.wecc.org/wara/>

⁸ See: <https://www.pnucc.org/wp-content/uploads/2025-PNUCC-Northwest-Regional-Forecast-final.pdf>

being considered at the national level⁹, emission intensity **OR** energy intensity, in addition to a measure of trade exposure, was used as the metric to assess EITE exposure. The pertinent language on EITE criteria from the US Government's inter-agency report is extracted below:

H.R. 2454 considers an industry to be “presumptively eligible” for emission allowance allocations (or “rebates”) to “trade-vulnerable” industries if the industry’s energy intensity or its greenhouse gas intensity is at least 5 percent, and its trade intensity is at least 15 percent. An industry’s energy intensity is defined as its energy expenditures as a share of the value of its domestic production. An industry’s greenhouse gas intensity is defined as its total greenhouse gas emissions (including indirect emissions from electricity consumption) times \$20 per ton of emissions, divided by the value of the industry’s domestic production. An industry’s trade intensity is defined as the combined value of its exports and imports as a share of the value of its domestic production and imports.

In Document 1, on pages 5 and 9, Ecology notes that leakage risk is generally assessed with metrics tied to emissions intensity and trade exposure, but the pulp and paper sector is uniquely characterized as energy intensive and trade exposed due to the biogenic emissions associated with the use of biomass. It’s essential that any method for assessing leakage risk for pulp and paper contains a metric for energy intensity, in addition to emissions. As such, we would agree with ICAP’s conclusion, noted on page 11, that a more nuanced approach that reflects leakage risk on an industry-specific basis is necessary.

Document 2: Methods for developing greenhouse gas benchmarks

Establishing benchmarking protocols for the pulp and paper sector will be a challenge. Ecology’s expressed purpose for establishing benchmarking under the CCA is to “reward the most efficient facilities within the jurisdiction and maintain abatement incentives.” It’s important to note that this objective is highly likely to create a scenario in which there are “winners” and “losers” within a given sector, thus creating an additional leakage risk for highly trade exposed sectors, such as pulp and paper.

At a high level, due to the wide range technical and operational differences at each of the six Washington mills covered by the CCA, establishing sector level benchmarking is not an option. Any benchmarking protocols established for pulp and paper will need to be done at the individual facility level – most likely using a process-based benchmarking methodology. Additionally, product-based benchmarking is also likely to be a challenge for pulp and paper. This is due to the fact that it is possible to have a similar product manufactured with two very different processes, such as mechanical versus chemical pulping.

The forest products sector produces a variety of products using multiple different processes. The US pulp and paper sector is a diverse industrial sector producing products such as packaging material, tissue and towel products, printing and writing paper, newsprint, and specialty papers. These products are made using a variety of different processes based on chemical, mechanical, and recycled pulp production. The US wood products sector also produces a variety of products such as lumber, plywood, veneer, particleboard, oriented strand board, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, and glue-laminated beams. These products are made from a variety of different wood types. Because of the diversity of products and processes, rational sector-specific benchmarking is particularly challenging for the forest products sector. The facility specific approach is the preferred methodology for benchmarking and allowance allocation in the forest products sector. With this approach, a facility is compared to its past performance, or baseline benchmarking year. The facility specific approach is

⁹ See: The Effects of H.R. 2454 on International Competitiveness and Emission Leakage in Energy-Intensive Trade-Exposed Industries. https://www.epa.gov/sites/default/files/2016-07/documents/interagencyreport_competitiveness-emissionleakage.pdf

used in the province of Alberta in their Technology Innovation and Emissions Reduction (TIER) regulation¹⁰, and is the current approach being used by Washington for allocation of allowances to EITE sectors within the CCA.

Lastly, while it is understandable to use programs in New Zealand the EU as examples for benchmarking, it's important to note that manufacturing processes in these countries can vary dramatically from those in the United States, and Washington State. It's also important to note that for pulp and paper, there are no longer chemical pulp mills operational in California and therefore it is also a challenge to assess those benchmarking protocols for some mills in Washington.

Document 3: Framework for assessing methods for EITE allowance allocation

NWPPA does not have any feedback on the criteria for identifying viable alternative methods (step 1) or comparing viable alternatives (step 2).

Document 4: Potential methods for allocating allowances to EITEs

As we noted earlier in our comments, the development of an objective approach for assessing leakage risk for pulp and paper will have to contain a metric for assessing energy intensity to capture sector-specific risks.

Additionally, product-based benchmarking may not be the most suitable for all sectors, so transitioning all EITEs to product-based benchmarking may not be an appropriate objective. A more appropriate objective may simply be to establish benchmarking for all existing EITEs by 2035.

Proposing to require consignment of EITE allowances to fund decarbonization projects without adequately funding the existing "hard-to-decarbonize industries" grant program or increasing the allocation of CCA revenue for projects at EITE facilities is not a sustainable solution. As has been discussed in multiple stakeholder meetings, many of these technologies do not meet the return on investment (ROI) criteria for many companies. Requiring consignment of allowances only increases the economic challenges of decarbonization projects. We are happy to work with Ecology and the legislature on ways to increase the use of CCA funds for decarbonization projects within Washington's pulp and paper sector.

In terms of aligning with the program cap and emissions limits, Washington State has very ambitious GHG reduction goals and implementing a cap adjustment factor (CAF) alongside these goals will negate the results of any leakage analysis and override any mitigation approach. It is likely that a CAF would act counter to the desired effect and pose an increased risk of leakage.

Document 5: Review of options for allocating allowances to EITEs for 2035-2050

Regarding net-zero industry prioritization, it is unclear how Ecology would propose to prioritize allowance allocations for industries manufacturing products that are consistent with statewide net-zero emissions limits, and which industries or products would qualify. Washington's pulp and paper industry would seemingly fit into this category based on the use of biomass for power generation and the use of recycled content and sawmill residuals as raw materials. However, it is difficult to evaluate this option without additional details.

Document 6: Draft recommendations (including Appendix 1)

NWPPA does not have any comments on Draft Recommendations 1.1, 1.2, 2.1, or 2.2.

NWPPA appreciated the inclusion of alternative methods for establishing allocation baselines in Draft Recommendation 3.1, as we do not believe that product-based benchmarking is the most suitable for pulp and paper.

¹⁰ See: <https://open.alberta.ca/dataset/0cba733c-5038-4503-a2ef-33edb14bae3/resource/e214e001-22fa-4a0c-8429-5482e512b0be/download/epa-tier-standard-developing-benchmarks-version-2-4.pdf>

Additionally, we refer to our previous concerns around required consignment in Draft Recommendation 3.2. This recommendation alone does not solve some of the economic impacts driving leakage risk. Without increased funding through Washington's Hard-to-Decarbonize Sectors Grants Program, this requirement would worsen the problem.

As previously noted, NWPPA has concerns around Draft Recommendation 4.1 and how a CAF would act counter to Ecology's directive to mitigate leakage. However, we appreciate the inclusion of an alternative option that would achieve a similar outcome in Draft Recommendation 4.2.

NWPPA does not have any comments on Draft Recommendation 5.1.

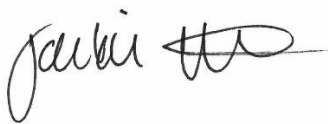
In reference to the list of complimentary measures to support decarbonization of industry in WA in Appendix 1, NWPPA would be supportive of the consideration of several of the complimentary measures listed. In particular, expediting electrical grid enhancements, accelerating permitting procedures for critical decarbonization projects, increased funding for the Hard-to-Decarbonize Sector Grants Program, and R&D support mechanisms. That said, some of these complimentary measures may not align with other program or permitting objectives, which would need to be addressed.

Conclusion

We appreciate Ecology's expressed goal of including technical feasibility and economic impacts wherever possible. In its final report to the Legislature, Ecology must provide an accurate and realistic assessment of carbon reduction opportunities for Washington's pulp and paper sector. One of the items that should be included is a comprehensive analysis of potential GHG and jobs leakage for mills in Washington. These two pieces are essential to inform a reasonably achievable allowance reduction schedule for our sector from 2035-2050 that maintains economic competitiveness with mills outside of Washington State. A schedule that not only supports the state's GHG reduction goals but also reflects the Legislature's objective of avoiding the export of pollution, jobs, and economic opportunities, supporting sectors that sequester carbon and reducing emissions at the lowest cost to Washington's economy, consumers, and businesses.

As you've heard us say before, many of our members, and much of the EITE community in Washington, are facing circumstances where the changing regulatory landscape and constraints of compliance are forcing them to rethink whether they will be able to continue operating at the same levels in Washington, or whether their efforts are better focused elsewhere. Our objective is to continue working with Ecology to help shape policies that mitigate the economic and leakage risks associated with the pursuit of Washington's GHG reduction goals. Thank you for the opportunity to provide feedback. Please let me know if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Jackie White", with a stylized flourish at the end.

Jackie White
Director of Regulatory and Technical Affairs, NWPPA