Impacts of the Proposed Washington HB-1409 CFS Changes on Fuel Prices

Prepared for Western States Petroleum Association

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3. Leading experts on carbon reduction regulations including Washington’s Clean Fuels Standard and Cap & Invest Program.
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5. **Questions about LCF Programs?** Our team of experts is available to provide specific analysis and tailored strategy for your needs.

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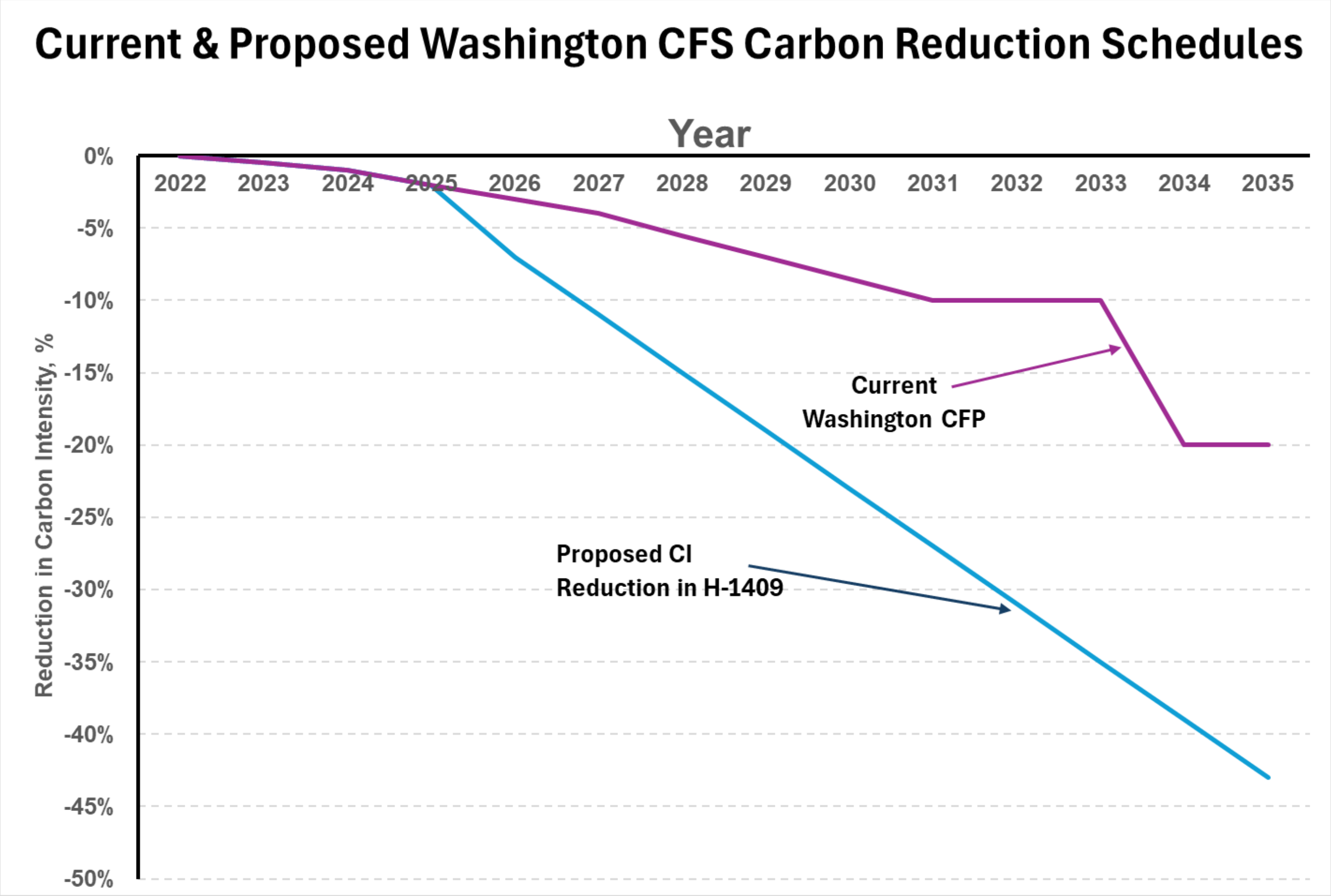
The figures in this slide deck were developed by Stillwater Associates LLC through analysis of information published by the Washington Department of Ecology and the Washington State Legislature. The analysis uses proprietary predictive models of LCF program credit prices.

HB-1409 – Proposed Changes to CFS

1. Key change is the dramatic increase in carbon intensity (CI) reduction requirements
2. CI reduction is increased from the current schedule of 20% by 2035 to 43%



Two Key Issues to Consider:
Program Feasibility & Potential Cost to Consumers

1. Ability to achieve carbon emissions reductions in the gasoline and diesel sectors is quite different.
   a. Diesel – carbon reduction via displacement of ultra-low sulfur diesel (ULSD) with renewable diesel (RD) and biodiesel (BD)
   b. Gasoline – carbon reduction via electrification of the light-duty fleet
2. Program credit prices escalate if program credits are insufficient to offset deficits.

Costs are related to feasibility.

43% CI Reduction Feasibility in 2035: **Diesel Pool**

1. If diesel pool is completely converted to BD/RD from the lowest-carbon feedstocks, carbon can be reduced by nearly 60%, so the 43% CI reduction standard is theoretically possible.
2. Key feasibility issues:
   a. Availability of low-carbon feedstocks (i.e., UCO and tallow)*
   b. Competition for RD among current LCF programs (CA, WA, OR, BC, Canada, New Mexico) and states considering LCF programs (e.g., NJ, NY, IL, HI).
   c. Sufficient RD production capacity

Diesel pool CI reduction target is theoretically possible, but depends on RD/feedstock availability.

* January 2025 announcement by the U.S. Dept. of Treasury that imported UCO will not be a permissible feedstock for the generation of 45Z tax credits could significantly impact low CI RD availability.

43% CI Reduction Feasibility: **Gasoline Pool**

1. The only viable option to reduce gasoline pool CI by over 40% is the transition to electric vehicles (EVs).
2. WA, like CA and OR, has passed a ban on the sale of new internal combustion engine (ICE) cars by 2035
   a. If successful, this would make substantial progress to meeting this goal,
   b. But Stillwater analysis finds the ICE Ban to be likely infeasible.
   c. Reality check: EV sales have recently stopped increasing.
3. Stillwater's projections find light-duty market penetration of EVs in Washington to be insufficient to meet 43% CI reduction by 2035.

Gasoline pool compliance in 2035 is not feasible.

43% CI Reduction Feasibility in 2035: **Overall Program**

1. Diesel pool CI reduction of 43% or more is feasible, but RD and feedstock supply will prove challenging.
2. Gasoline pool compliance of 43% in 2035 is not feasible.
3. Since the gasoline pool is twice the size as the diesel pool, the shortfall in gasoline pool credits will greatly exceed any possible excess from the diesel pool by 2035.

There will not be sufficient credits to enable a 43% CI reduction in 2035

Potential Costs to Consumers

1. CFS costs added to fuels are determined by the CI Reduction Standard and the CFS credit price.
2. Credit price is generally set by the incentive of renewables producers to ship product to the market that provides them most value.
3. Renewable fuel producers have incentives to sell their products where they can obtain the greatest value, which includes incentives provided by various state and federal programs.
4. *Costs added to fuels are directly proportional to the CI reduction.*

***HB-1409 will increase costs to consumers significantly*.**

Washington CFS Credit Prices

1. Department of Ecology reported average traded prices for CFS credits of $45.92/MT in 2023 with the 1% CI reduction requirement, which indicates sufficient supply to meet demand.
2. If insufficient credits are generated, supply will not be sufficient to meet demand causing prices to eventually increase to maximum allowed levels, in excess of $200.
3. As required CI reductions increase, more RD (with lower CI) and EVs are needed to comply, increasing the risk of non-compliance and raising prices.
4. The proposed schedule increases both CI reduction requirements and feasibility risk that directionally increase the costs added to consumers.

Costs added will increase with HB-1409

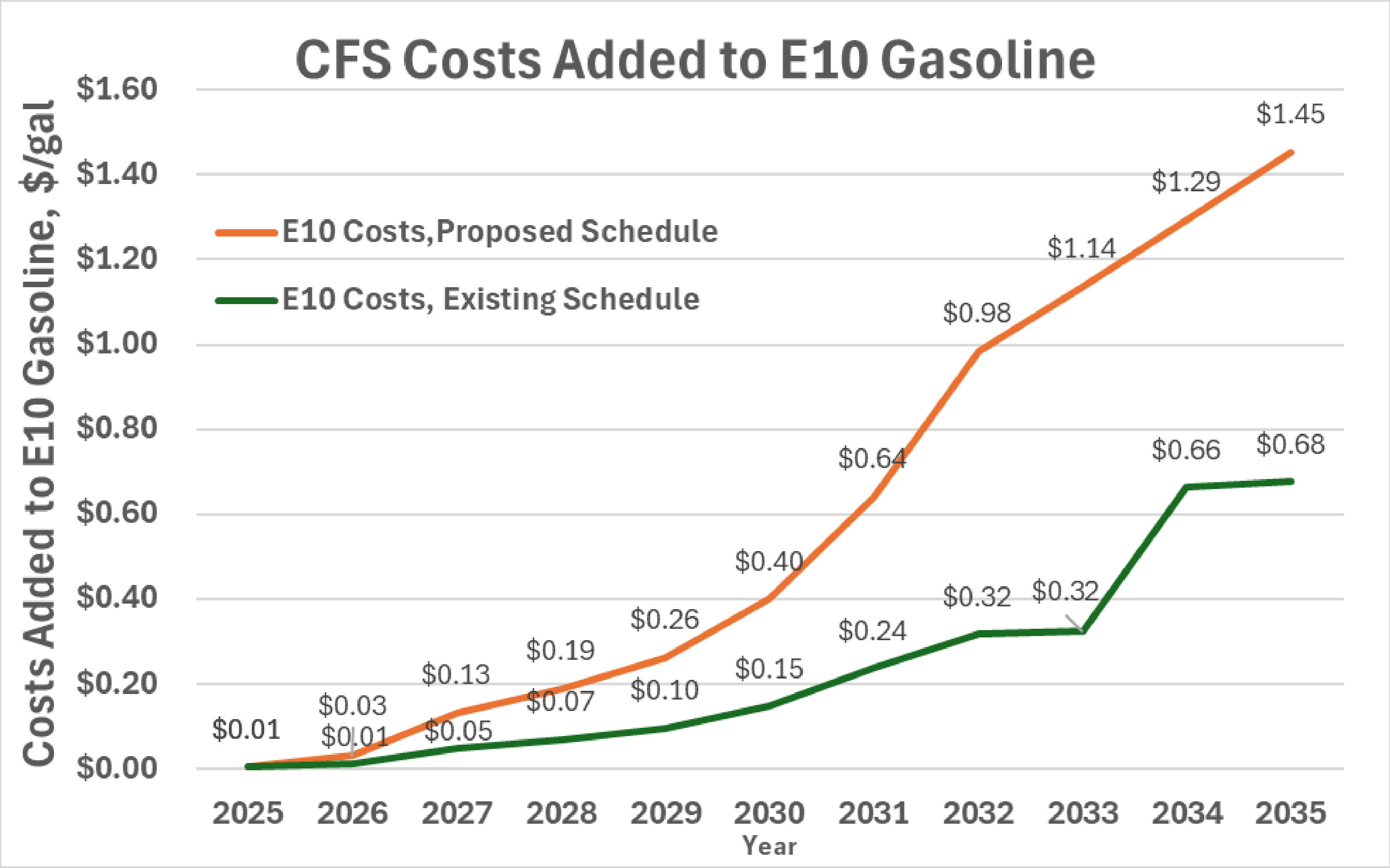
What Costs will be Added to Fuels by CFS?

1. The costs added to fuels are calculated from the fuels CI reduction requirement and CFS credit price.
2. Stillwater has developed a proprietary model to predict future LCF credit prices in regulated jurisdictions, including WA, OR, and CA. Stillwater's model correlates the outlook for CA LCFS prices with WA CFS prices because these markets are affected by a variety of factors that influence the supply and demand of program credits and deficits.
3. These factors include the rules of LCF and other renewable fuels programs, the supply and demand of renewable fuels, rates of EV adoption, and others.
4. Using this model and the existing regulations in place, we project the CFP credit price through 2035 to estimate costs.

Projected CFS Costs added to Gasoline & Diesel are shown in the next two slides.

Proposed Changes Impacts to Gas Prices

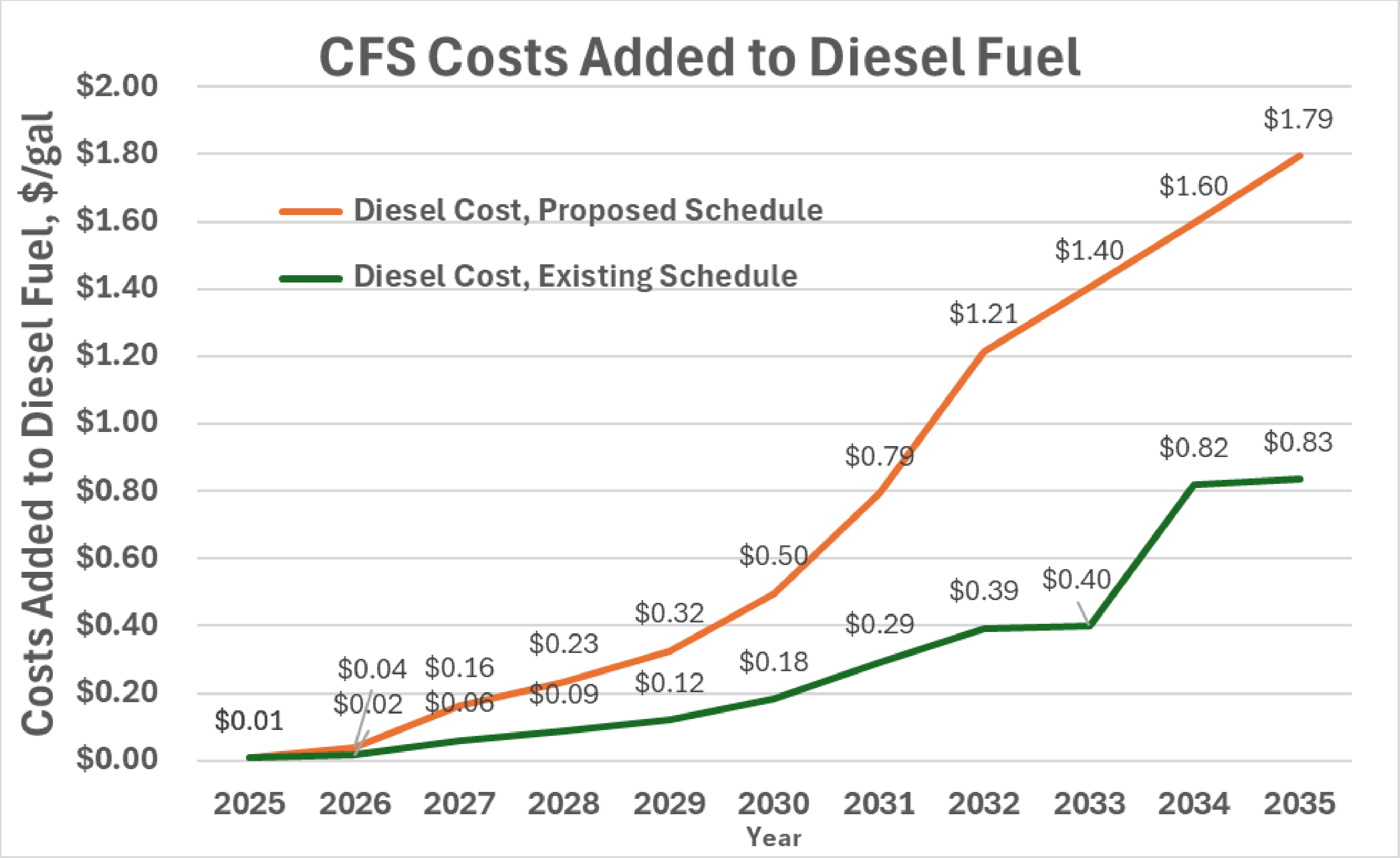
1. Gasoline costs are projected to increase over time to comply with the CFS
2. The proposed schedule will more than double these costs beginning in 2026



Costs added in 2030 and 2035 are projected to increase to \$0.40 and \$1.45 per gal on with the proposed acceleration of the CI Reduction requirements.

Proposed Changes Impacts to Diesel Prices

1. Similarly to gasoline, the proposed schedule will more than double the costs added by CFS to diesel after 2026



Costs added in 2030 and 2035 are projected to increase to $0.50 and $1.79 per gal on with the proposed acceleration of the CI Reduction requirements.

Closing Insights

1. The cost added to gasoline and diesel fuels is proportional to the CI reduction standard at a fixed credit price.
2. Higher CI reductions can make compliance more challenging which can also increase credit price.
3. Based on simple model projections of EV sales, the proposed CI reduction schedules for HB-1409 are not likely to be feasible by 2035, which would require future changes to the rules.
4. The schedule acceleration in HB-1409 would more than double CFS costs added to consumers.
5. Total costs added to gasoline and diesel by CFS are projected to increase to over $1.40 per gallon by 2035.

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Thank you.

Questions?