



# Cap-and-Invest Program Allowance Auction Revenue Forecast Summary – June 2024 –

## Purpose

To update revenue estimates from cap-and-invest allowance auctions under the Climate Commitment Act, and provide a summary of the process and methodology for forecasting this fund source moving forward.

## Background

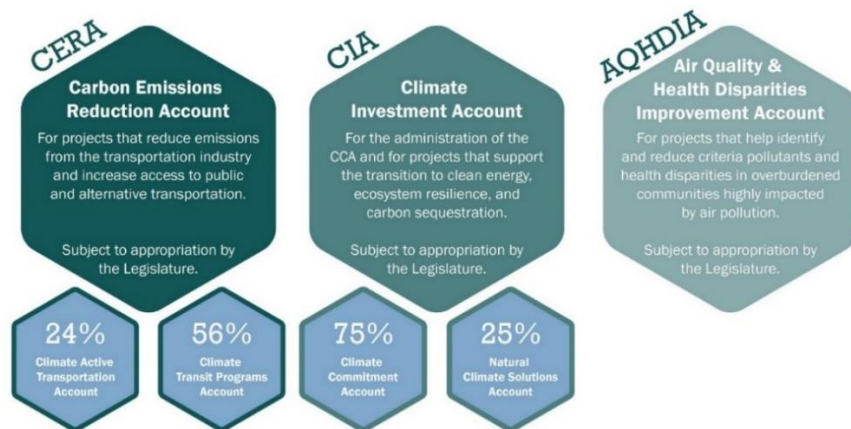
In 2021, the Legislature passed the Climate Commitment Act (CCA), [Chapter 70A.65 RCW](#), which establishes a comprehensive, market-based program to reduce carbon pollution and achieve the greenhouse gas limits set in state law.

The cap-and-invest program under the CCA sets a limit, or cap, on overall carbon emissions in the state and requires businesses to obtain allowances equal to their covered [greenhouse gas emissions](#). These allowances can be obtained through [quarterly auctions](#) hosted by Ecology’s contracted vendor, or bought and sold on a secondary market (just like stocks and bonds). The cap will be reduced every year to help ensure Washington achieves its 2030, 2040, and 2050 emissions-reduction commitments, which means we will issue fewer emissions allowances each year.

The program began January 1, 2023, and the first allowance auction took place on February 28, 2023. As of June 2024, there have been six quarterly auctions and two Allowance Price Containment Reserve (APCR) auctions. For more information on the cap-and-invest program, please visit: <https://ecology.wa.gov/Air-Climate/Climate-Commitment-Act/Cap-and-invest>.

## Accounts and Revenue Overview

The CCA established three primary accounts and two sub-accounts to house cap-and-invest auction proceeds until they are appropriated for specific uses and projects by the Legislature. During the 2022 legislative session, ESSB 5974 established two additional accounts that received revenue transfers from the Carbon Emissions Reduction Account (CERA). Funds in each of these seven accounts are earmarked for specific types of climate, environmental justice, and ecological projects. Per RCW 70A.65.100, auction proceeds must first be deposited into CERA each fiscal year, and statute sets those deposit amounts.





### Updated Revenue Forecast

Ecology provided its first revenue estimates for the cap-and-invest program auctions in October 2022. At that time, the program was still a few months from launching and hadn't held its first quarterly auction yet. A first official revenue forecast was provided in November 2023. The revenue estimates provided in this summary reflect current information regarding auction results as of June 2024, including the results of the June 2024 auctions in both Washington and the combined California/Québec market, as well as updates to allowance supply and allocations for Washington's program.

Current - June 2024						
\$ in thousands	FY24 <sup>1</sup>	FY25	FY26	FY27	FY28	FY29
<b>Total Auction Revenue</b>	<b>\$1,291,962</b>	<b>\$972,343</b>	<b>\$841,882</b>	<b>\$791,906</b>	<b>\$771,543</b>	<b>\$670,954</b>
26A - CERA <sup>2</sup>	\$356,697	\$366,558	\$359,117	\$359,117	\$359,117	\$359,117
26E - AQHDIA <sup>3</sup>	\$2,500	\$2,500	\$10,000	\$10,000	\$10,000	\$10,000
26B - CIA <sup>4</sup>	\$932,765	\$603,285	\$472,765	\$422,789	\$402,426	\$301,837

Previous - November 2023						
\$ in thousands	FY24 <sup>1</sup>	FY25	FY26	FY27	FY28	FY29
<b>Total Auction Revenue</b>	<b>\$1,481,456</b>	<b>\$1,096,783</b>	<b>\$945,233</b>	<b>\$827,530</b>		
26A - CERA <sup>2</sup>	\$356,697	\$366,558	\$359,117	\$359,117		
26E - AQHDIA <sup>3</sup>	\$2,500	\$2,500	\$10,000	\$10,000		
26B - CIA <sup>4</sup>	\$1,122,259	\$727,725	\$576,116	\$458,413		

Change - November 2023 to June 2024						
\$ in thousands	FY24 <sup>1</sup>	FY25	FY26	FY27	FY28	FY29
<b>Total Auction Revenue</b>	<b>(\$189,494)</b>	<b>(\$124,440)</b>	<b>(\$103,351)</b>	<b>(\$35,624)</b>	<b>\$771,543</b>	<b>\$670,954</b>
26A - CERA <sup>2</sup>	\$0	\$0	\$0	\$0	\$359,117	\$359,117
26E - AQHDIA <sup>3</sup>	\$0	\$0	\$0	\$0	\$10,000	\$10,000
26B - CIA <sup>4</sup>	(\$189,494)	(\$124,440)	(\$103,351)	(\$35,624)	\$402,426	\$301,837

<sup>1</sup> Reflects actual revenue collections for completed auctions during fiscal year 2024

<sup>2</sup> Annually, beginning July 1, 2023, the State Treasurer will transfer 24% of the revenues in Carbon Emissions Reduction Account (CERA) to the Climate Active Transportation Account (26M) per RCW 46.68.490, and 56% to the Climate Transit Programs Account (26N) per RCW 46.68.500. State Treasurer transfers are not reflected in the revenue estimates above (revenue is shown in CERA).

<sup>3</sup> FY26-FY29 amounts based on legislative intent in RCW 70A.65.280(3) that no less than \$20 million per biennia be dedicated to AQHDIA for the purposes of the account.

<sup>4</sup> Annually, beginning July 1, 2023, the State Treasurer will transfer revenues available in the CIA that are not already appropriated in the account to administer the program. Per RCW 70A.65.250, 75% will be transferred to the Climate Commitment Account (26C) and 25% will be transferred to the Natural Climate Solutions Account (26D). State Treasurer transfers are not reflected in the revenue estimates above (revenue is shown in Climate Investment Account).

**Please note**, as Washington's cap-and-invest program is still new, there remains a high level of uncertainty in any estimates of auction proceeds into the future. While the updated projections above represent Ecology's best estimate of potential revenues, actual auction proceeds could be higher or lower, depending on the actual price that allowances sell for at each auction (the settlement price<sup>1</sup>).

<sup>1</sup> The terms "allowance price" and "settlement price" are sometimes used interchangeably. Ecology refers to settlement price, or allowance settlement price, as the *actual* price per allowance as determined by an auction.



Because of this inherent uncertainty, we strongly recommend caution when relying on these forecasted projections to appropriate funds from the associated accounts. Historically, the early years of emissions trading systems such as Washington's are the most variable in allowance prices, and therefore in revenue.

### Summary of Changes Between June 2024 Forecast and November 2023 Forecast

This June 2024 forecast uses the same methodology as the previous November 2023 forecast. Several factors have contributed to the change in forecasted revenue over what was forecasted in November 2023.

- Standardizing auction price forecast methodology: In November 2023, Ecology used the average settlement price for the last four California auctions and last *three* auctions for Washington, and then increased prices by a rate of 5% plus the prior year's inflation.<sup>2</sup> The intent was to use one year's worth of auctions, but in November of 2023, Ecology had only held three quarterly auctions. This June 2024 forecast uses the average of the most recent four auctions for each jurisdiction, and then increased prices by a rate of 5% plus the prior year's inflation. Moving forward, the most recent four quarterly auctions will be used to determine the average price as the input for each forecast.
- Washington settlement price updates: The actual average current vintage settlement price over Washington's first three quarterly auctions (Auctions 1-3) in 2023 was \$55.85. The actual average current vintage settlement price over Washington's four most recent quarterly auctions (Auctions 3-6) is \$42.65. Auction #5 settled at \$25.76, and Auction #6 settled at \$29.92.
- Joint California/Québec price updates: The [actual settlement prices](#) for the joint California/Québec auctions in 2023 and early 2024 continue to trend higher than estimated in November 2023, and have been trending upward over the last four quarterly auctions (\$38.16 average for this June forecast vs \$33.03 average in November 2023).
- Washington state-owned allowance supply: Ecology has more definitive information than it did at the time of the previous forecast concerning the supply of allowances eligible to be offered at each auction. Several inputs have changed compared to the November 2023 forecast, which impacts the current estimated state-owned allowance supply available for auction in CY2023-2027, including:
  - **Table 12**: Free allowances allocated to EITEs increased, which **decreased** the state-owned supply (table 17) by 339,647 allowances compared to November.
    - EITEs are allocated allowances based on production data for a given year. Since the previous forecast in November 2023, actual production data was higher than anticipated, resulting in more allocation to EITEs. [Read more about EITE allocation here.](#)

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Allowance price may also refer to the settlement price, but in the context of this forecast, "allowance price" is generally used to refer to a forecasted, average, or projected price.

<sup>2</sup> Inflation is applied on a quarterly basis, i.e., each current vintage auction price is increased by the sum of five percent plus one quarter of the year's inflation.



- **Table 13:** Allocation to electric utilities decreased, which **increased** the state-owned supply (table 17) by 961,998 allowances.
  - The primary driver for this decrease was a change in how 2027 allocation was estimated. In the November 2023 forecast, Ecology set 2027 allocation equal to 2026. In this June forecast, 2027 allocation decreased using an average of known or expected 2023-2025 allocation. We expect this lower allocation to track closer to future actual allocation.
  
- **Table 15:** Estimated future offset usage under-the-cap decreased, which **increased** the state-owned supply (table 17) by 268,420 allowances.
  - Offset usage represents 3% of the remaining annual allowance budget after subtracting allocation to EITEs, utilities, and contributions to the three reserve accounts. The offset usage calculation in the November 2023 forecast incorrectly excluded the allowances contributed to the APCR. This June 2024 forecast corrects that error, reducing the total number of allowances to which the 3% estimate is applied, thus reducing the number of expected offsets used for compliance.
  
- **Table 16:** Unsold future vintage allowances from the June 2024 auction were returned to CY2027 and will be sold as current vintage allowances in CY2027.
  - This represents a decrease of 906,142 allowances sold at future vintage auctions compared to the November 2023 forecast, and contributes to an **increase** in the number of current vintage allowances to be offered in CY 2027.
  
- **Table 17:** Current vintage allowances to be sold in CY2023 through CY2027 increased by 1,796,908 allowances.
  - Combined with adjustments to allocation and yearly supply, the number of current vintage allowances to be sold in CY2027 alone **increased** by 2,114,317 allowances.

The November 2023 forecast assumed that all allowance offered at auction would be sold. Actual data from Auction #6 in June 2024 demonstrated this assumption did not hold. Since many of the calculations are based on percentages of state-owned allowance supply, the increase in state-owned supply (based on those unsold allowances) had a ripple effect through each formula, particularly in CY2027, where a change in the allocation to electric utilities calculation further increased the state-owned supply.

This overall increase in state-owned supply is countered by the lower average settlement price of allowances in Washington and California/Québec, which contributes to a lower revenue estimate in the baseline forecast compared to the previous forecast.



### Forecasting Methodology for Estimating Revenue Proceeds

Ecology will continue to use the methodology below to provide an official (baseline) forecast of allowance auction revenue estimates twice a year, once in November and again in June. As it did in November 2023, Ecology will also continue to provide low bounding and high bounding scenarios with each forecast for additional context. Each forecast will estimate revenue proceeds from the allowance auctions over a five-year period. For example, the current forecasted estimates above cover fiscal years 2025-2029. This rolling five-year period will advance forward a fiscal year with each June forecast (e.g., this June 2024 forecast covers fiscal years 2025-2029). Each baseline forecast will provide estimated revenue from the allowance auctions, which will accrue to the state treasury, and therefore be available for appropriation by the Legislature.

Generally, revenue is estimated by multiplying the allowance supply available per auction by an estimated settlement price per allowance.

### Allowance Settlement Price Calculation

The starting price for the baseline forecast, along with the low bounding and high bounding scenarios, are as follows:

- **Low Bounding Scenario:** Based on estimated allowance auction supply multiplied by an average of the previous four quarterly auction current vintage settlement prices in the combined California /Québec market.
- **High Bounding Scenario:** Based on estimated allowance auction supply multiplied by an average of the previous four quarterly auction current vintage settlement prices in the Washington market.
- **Baseline Forecast:** Based on Washington’s estimated allowance auction supply multiplied by an auction price that is the mid-point between the low and high scenarios.
  - For example, the average current vintage allowance price in the combined California/Québec market used for this June 2024 forecast was \$38.16, and the average current vintage allowance price in the Washington market was \$42.65. The average of the two—**\$40.40**—sets estimated allowance price for the current baseline forecast.

For both the baseline forecast, and bounding scenarios, Ecology will calculate potential current and future vintage allowance prices, and adjust for the rate of inflation. Auction supply for each auction is based on the decreasing annual budget of available state-owned allowance, dividing evenly across each of the four auctions. Future vintage allowances offered three years prior to their vintage year and any unsold future vintage allowances will be readded to the current supply in the year that matches their vintage. If the settlement price at a quarterly auction is above the first tier of the APCR, the forecast or scenario’s allowance supply will include cost containment allowances from the APCR. In addition, as to the forecast and both bounding scenarios, the floor price and APCR tier prices will increase by an inflationary factor each year. Therefore, prices will increase in all three instances year-over-year, but the two factors that will change the price between each will be:

1. The average allowance price, and
2. Whether or not the forecasted current vintage price will trigger APCR auctions that introduce additional allowances which are sold at fixed tier prices, as defined by rule.



**Note:** If recent Washington auction price trends continue, there is a low likelihood that a quarterly auction will trigger an APCR auction in any scenario in the current forecast. Ecology is required by rule to offer an APCR auction each year before the annual compliance deadline. APCR allowances can be used to meet compliance obligations for any year, including previous years.

However, current secondary market prices for allowances are well below the fixed APCR price, making it unlikely that entities will pay a premium above market value for these APCR allowances. Therefore, Ecology assumes in this forecast that even though an auction will be offered, demand will be low, and no revenue is expected to result from these required APCR auctions.<sup>3</sup>

### Rationale for Baseline Forecast Approach

Choosing an allowance price for the baseline forecast that is the mid-point between the two market prices is a prudent approach, and does not infer precision or confidence that does not exist. The baseline forecast allowance price for both current and future vintages is the combined average of actual allowance settlement prices in the California/Québec joint market and the Washington market as of June 12, 2024.

### Update on Linkage

The CCA directs Ecology to evaluate whether to link Washington’s cap-and-invest market with other jurisdictions and provides specific criteria that must be met before linking. On March 20, 2024, all three governments formally expressed mutual interest in forming a shared carbon market for the first time.

Ecology continues to work with California and Québec to determine what a combined market might look like, what issues need to be resolved, and what timeline would make sense for all three parties. Creating a shared understanding between jurisdictions of what a combined market looks like it will take over a year to complete and would need to occur before Washington could begin participating in a linked market. If no major obstacles arise, the soonest Washington could begin operating as part of a linked market would likely be near the end of calendar year 2025.

We expect allowances prices in each of these markets to converge as a final decision on program linkage nears. However, whether that convergence is closer to the price in the California/Québec joint market, or the Washington market, remains unclear. In a linked market, some of the demand from Washington that drove prices higher in 2023 will be absorbed by California/Québec’s larger market, which offers a supply roughly seven and half times that of Washington (in 2023, including allowances consigned by utilities, California offered 224 million current vintage allowances vs. 30 million current vintage allowances in Washington). It is likely that the actual allowance prices in a linked market will be fall somewhere

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<sup>3</sup> Only entities that do not have a sufficient number of compliance instruments in their compliance account, and were not able to purchase allowances at auction on the secondary market, or reduce their emissions, would be willing to pay the higher price for APCR allowances to avoid an additional compliance obligation for a lack of compliance instruments at the compliance event. See more about compliance requirements in chapter 3 of [Cap-and-Invest Program Compliance and Enforcement Guidelines \(wa.gov\)](https://www.wa.gov/cap-and-invest-program-compliance-and-enforcement-guidelines).



between the current low and high scenarios. However, being more specific than that would require speculation based on dynamic variables, which are hard to pin down with any precision.

### Current and Future Vintage Prices

Ecology will separately calculate proceeds from the future and current vintage auctions because future vintage auctions may consistently sell at a different price.

- Current vintage proceeds in year X = (Current vintage price in year X as set forth below) \* (Current vintage supply in year X)
- Future vintage proceeds in year X = (Future vintage price in year X as set forth below) \* (Future vintage supply in year X)

### Allowance Price Calculation

The following three tables provide the sources for the 2024 prices used in the baseline revenue forecast, as well as the low bounding and high bounding scenarios.

**Table 1: Official (Baseline) Revenue Forecast: Average of Low and High Scenarios**

Auction Name	Current Vintage Price	Future Vintage Price
CA/QC Joint Average		
	\$38.16	\$37.73
WA Average	\$42.65	\$34.51
<b>Average for Current Forecast:</b>	<b>\$40.40</b>	<b>\$36.12</b>

**Table 2: Low Bounding Scenario: California/Québec Price Average**

Auction Name	Current Vintage Price	Future Vintage Price
August 2023 Joint Auction #36	\$35.20	\$34.16
November 2023 Joint Auction #37	\$38.73	\$37.40
February 2024 Joint Auction #38	\$41.67	\$41.00
May 2024 Joint Auction #39	\$37.02	\$38.35
<b>Average for Current Forecast:</b>	<b>\$38.16</b>	<b>\$37.73</b>

Source: [Summary of California Auction Settlement Prices and Results \(ca.gov\)](#)

**Table 3: High Bounding Scenario: Washington Price Average**

Auction Name	Current Vintage Price	Future Vintage Price
<a href="#">August Auction #3</a>	\$63.03	
<a href="#">December Auction #4</a>	\$51.89	\$45.00
<a href="#">March Auction #5</a>	\$25.76	
<a href="#">June Auction #6</a>	\$29.92	\$24.02
<b>Average for Current Forecast:</b>	<b>\$42.65</b>	<b>\$34.51</b>

Source: [Auctions and market website - Washington State Department of Ecology](#).

### Escalating the Forecast Price for the Rate of Inflation and Five Percent Real

Under the cap-and-invest regulation, the allowance price floor, price ceiling, and allowance price containment reserve tiers (auction price levels) all increase at one hundred and five percent plus inflation (escalation factor). The forecast escalates each allowance price scenario from tables 1 through 3 using the same escalation factor. Because historical inflation—and future inflation forecasts—change for each calendar year (table 4), the escalation factor is different for each calendar year.



The escalation factor is applied to the allowance prices within each forecast on a quarterly basis. Allowance prices are escalated every three months for quarterly current vintage auctions, and every six months for the future vintage auctions that are held twice per year. E.g., at the annual level for calendar year 2026, the annual escalation factor for the auction price levels is 107.2 percent: 105 percent plus a 2.2 percent projected inflation by the May 2024 S&P Global forecast for CPI-U.<sup>4</sup> Each quarter’s current vintage allowance price is increased at an escalation rate such that at the end of calendar year 2026, the December 2026 current vintage allowance price is 7.2 percent (107.2% minus 100%) higher than the December 2025 current vintage allowance price.<sup>5</sup>

The current vintage auction is held once per quarter, so we will average four auctions each year. The future auction is held twice per year, so we will average the most-recent two future auction prices.

- Current vintage price in year X = (scenario initial price) \* (annual escalation factor) ^ (# of yrs.)
- Future vintage price in year X = (scenario initial price) \* (annual escalation factor) ^ (# of yrs.)

To match the method used to calculate the auction price levels (price floor, ceiling, and APCR tiers) in the cap-and-invest program, Ecology uses the prior year’s CPI forecast in calculating the next year’s escalation factor.<sup>6</sup> Values in Table 4 for Calendar Year 2023 and 2024 are actual figures, while the figures in out years are forecasted using the method described above.

**Table 4: Annual Inflation Factor by Calendar Year**

Calendar Year	Annual U.S. Consumer Price Index
2023	4.2%
2024	3.2%
2025	3.3%
2026	2.2%
2027	2.4%
2028	2.3%
2029	2.3%

<sup>4</sup> May 2024 S&P Global baseline 10-year forecast shared by the Washington State Economic Revenue Forecast Council.

<sup>5</sup> Because of compounding, the escalation per quarter is not equal to one quarter of the annual escalation factor (in this example, the quarterly allowance escalation factor is not one fourth of 107.2%). Instead, the compounding rate per quarter is:

$$(1 + \text{annual rate} + 5 \text{ percent})^{(1/4)}$$

$$= (\text{escalation factor})^{(1/4)}$$

This can be cross checked by multiplying each quarterly formula four times, i.e., raising it to the fourth power:

$$((\text{escalation factor})^{(1/4)})^4$$

$$= ((\text{escalation factor})^{(4/4)})$$

$$= (\text{escalation factor})^{(1)}$$

$$= \text{escalation factor}$$

<sup>6</sup> The cap-and-invest program uses actual U-CPI inflation measure, so uses the most-recently available U-CPI in setting the new auction price levels. For example, in setting the 2024 auction price levels before the 2024 auctions, the most-recent U-CPI information was from 2023.



### Estimating Allowance Supply

The cap-and-invest program creates an ‘allowance budget’ equal to the emissions cap for each year. The CCA directs Ecology to auction allowances from the current ‘budget’ as well as from the budgets of future years. Below is a high-level summary of how we will calculate the current vintage supply and future vintage supply to be offered at auctions for each fiscal year.

- Current Vintage Supply = Total Allowance Budget – Minus:
  - APCR, Emissions Containment Reserve, and Voluntary Renewable Electricity Reserve set asides. (A combined 7.33% of each yearly budget)
  - Allowance allocation to Emissions Intensive Trade Exposed (EITE) industrial market participants, electricity, and natural gas (roughly 55% of yearly budget in 2023).
  - Offsets under the cap (less than 3% reduction in allowance supply that first occurs in calendar year 2025)
  - Prior sales of future vintage allowances (4.9 million allowances from 2026 vintage were sold in 2023, 10% of 2026 supply. 2026 is the first year when current vintage allowances available at auction will have been reduced by the prior sale of 2026 vintage allowances)
- Future Vintage Supply = Total Allowance Budget from three years in the future \* 10%<sup>7</sup>.

For a more detailed breakdown of the amounts and assumptions behind the allowance budgets used in this forecast, please see *Appendix A*.

### June 2024 Baseline Forecast and Bounding Scenarios

These tables provide revenue estimates for the baseline forecast and bounding scenarios for fiscal years 2025-2029.

**Table 5: Official (Baseline) Revenue Forecast: Midpoint of CA/QE and WA Price Average**

Fiscal Year	Forecasted Proceeds
2025	\$972,343,000
2026	\$841,882,000
2027	\$791,906,000
2028	\$771,543,000
2029	\$670,954,000
<b>Grand Total (FY25 to FY29)</b>	<b>\$4,048,628,000</b>

**Table 6: Low Bounding Scenario: California/Québec Price Average**

Fiscal Year	Forecasted Proceeds
2025	\$934,599,000
2026	\$810,677,000
2027	\$762,375,000
2028	\$743,023,000
2029	\$648,712,000
<b>Grand Total (FY25 to FY29)</b>	<b>\$3,899,386,000</b>

<sup>7</sup> Per rule, Chapter 173-446-365 WAC, Ecology will hold two auctions of future vintages each year, including in each auction 5% of the annual allowance budget of the vintage year 3 years in the future. In 2023, 10% of vintage 2026 allowances will be sold.



**Table 7: High Bounding Scenario: Washington Price Average**

<b>Fiscal Year</b>	<b>Forecasted Proceeds</b>
2025	\$1,010,472,000
2026	\$873,393,000
2027	\$821,586,000
2028	\$800,210,000
2029	\$693,417,000
<b>Grand Total (FY25 to FY29)</b>	<b>\$4,199,078,000</b>

None of the scenarios include revenue from APCR auctions that would be triggered by quarterly auction settlement prices above the Tier 1 APCR price (\$56.16 in 2024). APCR auctions would still be offered once a year before each compliance period, per rule, but at allowance tier prices that would exceed quarterly auction settlement prices. The likelihood of entities purchasing APCR allowances at a price premium is assumed to be minimal, so no additional revenue from APCR auctions is assumed in any of the forecast scenarios.

For a more detailed breakdown of each fiscal year for the baseline forecast and bounding scenarios, see *Appendix B*.



## Appendix A – Allowance Supply

The following tables provide a breakdown of the assumptions behind the allowance totals necessary to calculate auction supply by calendar year. These tables are shown from 2023 to 2030, or the first two compliance periods of the program. Because future vintage auction supply relies on the allowance budget three years in the future, Table 8 extends to 2033.

**Table 8: Total Allowance Supply**

CY	CP1 Scope Total Allowances (MT CO <sub>2</sub> e)
2023	63,288,565
2024	58,524,909
2025	53,761,254
2026	48,997,598
2027	44,459,735
2028	39,679,085
2029	34,898,434
2030	30,117,784
2031	29,693,713
2032	28,449,643
2033	27,205,573

Source: Total program allowance budgets ([WAC 173-446-210](#)) and program applicability ([WAC 173-446-030](#)).

**Table 9: Allowance Price Containment Reserve (APCR) Allowances**

CY	APCR
2023	3,164,428
2024	2,926,245
2025	2,688,063
2026	2,449,880
2027	2,222,987
2028	1,983,954
2029	1,744,922
2030	1,505,889

Source: Ecology placed 5% of the total allowance supply (Table 8) into the APCR at the beginning of the program in January 2023. These allowances are available at APCR auctions. For APCR auctions triggered by 2024 quarterly auction prices, the trigger price for the APCR is \$56.16 ([WAC 173-446-370](#)).

**APCR Assumption:** Under all scenarios in 2024 and forward, the APCR trigger price is not met by forecasted quarterly auction current vintage allowance settlement prices. Two APCR auctions were held in 2023, and 6,054,000 allowances sold. This matches the [updated APCR auction supply guidance through 2026 \(govdelivery.com\)](#).



**Table 10: Emissions Containment Reserve (ECR) Allowances**

CY	Emissions Containment Reserve
2023	1,265,771
2024	1,170,498
2025	1,075,225
2026	979,952
2027	-
2028	-
2029	-
2030	-

**Source:** Ecology reserved 2% of the total allowance supply (Table 8) for the first compliance period—2023 through 2026—into the emissions containment reserve (ECR) consistent with [WAC 173-446-375](#). Ecology did not place any allowances from the second compliance period into the ECR.

**ECR Assumption:** ECR allowances are unavailable for auction unless certain conditions are met—the expansion of existing facilities, or entry of new covered participants in the program. For purposes of this forecast, Ecology conservatively assumes the conditions will not be met, and therefore assumes ECR auctions will not occur.

**Table 11: Voluntary Renewable Energy (VRE) Account Allowances**

CY	Voluntary Renewable Energy Account Allowances
2023	208,852
2024	193,132
2025	177,412
2026	161,692
2027	-
2028	-
2029	-
2030	-

**Source:** Ecology reserved 0.33% of the total allowance supply (Table 8) for the first compliance period—2023 through 2026—in the Voluntary Renewable Energy account (VRE) consistent with [WAC 173-446-230\(3\)](#). Ecology did not place any allowances from the second compliance period into the VRE. The VRE is intended to retire allowances in proportion to voluntary renewable energy credits purchased over and above existing requirements.

**Rationale for excluding from auction total:** Because VRE allowances will be directly retired rather than sold at auction, the VRE is deducted from the volume of allowances estimated for auction. [WAC 173-446-230\(3\)](#)



**Table 12: Emissions Intensive, Trade Exposed (EITE) Allowance Allocation**

CY	EITE Allowance Allocation
2023	9,193,458
2024	9,330,137
2025	9,261,798
2026	9,261,798
2027	8,983,944
2028	8,983,944
2029	8,983,944
2030	8,983,944

**Source:** Initial EITE allocation for 2023 EITE production ([Allowance Allocation to Emissions-Intensive, Trade-Exposed Industries for the First Compliance Period](#)).

**Assumptions:** EITE industrial allowance allocation is intended to protect against emissions leakage, or the relocation of Washington State businesses to other locations without carbon regulations. Washington State allocates allowances to EITEs primarily through an allocation that scales with production, i.e., if production goes up then allocation goes up, and if production goes down then allocation declines as well. CY 2024 allocation reflects a revision to the estimated production in 2023, and 2025 and 2026 are a current best-estimate average of 2023 and 2024. Starting with the second compliance period, in 2027, EITE allocation is reduced by 3% consistent with [WAC 173-446-220\(2\)\(a\)](#).

**Table 13: Electric Utility Allowance Allocation**

CY	Electric Utility Allowance Allocation
2023	17,489,792
2024	16,395,535
2025	15,532,496
2026	11,320,466
2027	9,862,468
2028	8,592,249
2029	7,485,626
2030	6,521,529

**Source:** [Allowance Allocation to Electric Utilities for the First Compliance Period \(Revised\)](#).

**Assumption:** Electric Utilities are allocated allowances consistent with [WAC 173-446-230](#). The allowance allocation in Table 13 equals allowance allocation transferred for 2023 and 2024 allocation, and forecasted allowance allocation for 2025 and 2026. Electric utility allocation is phased out over time as the Clean Energy Transformation Act decarbonizes the electric sector. Because there are no forecasts for 2027 allocation at this time, Ecology decreased allowance allocation using an average of known or expected 2023-2025 allocation.



**Table 14: Natural Gas Allowance Allocation**

CY	Natural Gas Utility Allowance Allocation
2023	8,059,631
2024	7,452,993
2025	6,846,354
2026	6,239,715
2027	5,633,076
2028	5,026,437
2029	4,419,799
2030	3,813,160

Source: [Allowance Allocation to Natural Gas Utilities](#).

**Assumption:** The Climate Commitment Act requires that the Department of Ecology provide allowances at no cost to eligible natural gas utilities. This requirement is designed to help protect consumers from potential rate increases that could result from utilities' participation in the cap-and-invest program. Natural gas allowance allocation is calculated using a 2015-2019 'baseline' of natural gas emissions. The utilities were allocated 93% of the baseline in 2023 (7% less than the full baseline), with allocation declining by an additional 7% each year thereafter. [WAC 173-446-240](#)

**Table 14A: Natural Gas held for Compliance**

CY	
2023	2,820,871
2024	2,235,898
2025	1,711,589
2026	1,247,943
2027	844,962
2028	502,644
2029	220,990
2030	-

**Assumption:** Natural Gas utilities have required minimum consignment for each year, starting with 65% of allocation (Table 14) in 2023, 70% in 2024, 75% in 2025 and so on until 100% consignment in 2030. They may choose at any time to consign up to 100% of allowances to auction (WAC 173-446-300(2)(b)(ii)(A)), though Ecology's forecast assumes that all allowances not required to be sent to auction are retained for compliance. The total value held for compliance is assumed to be Allocation minus required consignment (Table 14 minus Table 14B)."



**Table 14B: Natural Gas Consigned to Auction**

CY	
2023	5,238,760
2024	5,217,095
2025	5,134,765
2026	4,991,772
2027	4,788,114
2028	4,523,793
2029	4,198,809
2030	3,813,160

**Assumption:** Natural Gas utilities have required minimum consignment for each year, starting with 65% of allocation (Table 14) in 2023, 70% in 2024, 75% in 2025, and so on. They may choose at any time to consign up to 100% of allowances to auction (WAC 173-446-300(2)(b)(ii)(A)).

**Table 15: Offset Usage**

CY	Offset Usage
2023	-
2024	-
2025	958,988
2026	855,281
2027	750,788
2028	744,714
2029	701,710
2030	603,568

**Assumption:** Offsets are important to calculate auction allowance supply because offsets are "under the cap", i.e., offsets used to meet compliance obligations.

Because offset usage is under the cap, the allowance budget is reduced by the number of offsets used in each compliance event for two years' prior emissions obligation. E.g., the forecasts assume that 958,988 offsets will be used to meet the 2023 emissions compliance event held in November of 2024. The 958,988 offsets are subtracted from the 2025 allowance budget that would otherwise go to auction (2025 allowances will be retired after the quantity of offsets becomes known during the November 2024 compliance event).

The offset totals are 3% of the emissions budget that represents sectors assumed to want to purchase offsets. This is based on the total program allowance budget (Table 8), reduced by the following allowance accounts and allocation totals that represent sectors and emissions that have a compliance obligation primarily met through no cost allowance allocation:

- The Emissions Containment Reserve (Table 10) is conservatively assumed to be withheld because entities do not trigger ECR allowance allocation or ECR auctions. Under this assumption, ECR allowances do not represent emissions obligations.
- The VRE account (Table 11) is assumed to be used directly for compliance and does not represent emissions obligations within the program.
- The industrial EITE sector (Table 12) is assumed to receive allowance allocation equal to emissions obligation for the first four years of the program, and does not use offsets to meet its compliance obligations.
- The electric sector (Table 13) is assumed to receive allowance allocation equal to its compliance obligation and does not use offsets to meet its compliance obligations.

**Note:** Ecology anticipates that offset usage will be substantively updated in future forecasts as offset projects enter the cap-and-invest program, and the first compliance event occurs in November 2024.



**Table 15A: Total current vintage after non-consigned free allowances, reserves and direct allocation**

CY	Total Current Vintage After non-Consigned Free Allowances, Reserves, and Direct
2023	29,145,393
2024	26,273,464
2025	23,314,672
2026	18,676,107
2027	19,005,542
2028	15,648,385
2029	12,973,109
2030	10,094,645

**Note:** Table 15A represents the supply of allowances available for auction starting with total annual budgets defined in rule and then subtracting allowances deposited into reserve accounts, allowances freely allocated to EITs and Electricity Utilities, and held for compliance by natural gas utilities. The values in Table 15 are subtracted from Table 15A to determine total allowances available for current vintage auctions each year (Table 15B). The drop in 2026 is the results of the sale of 2026 vintage allowances in the 2023 auction year. The increase in 2027 is due to unsold 2027 vintage allowances when offered as future vintage allowances in 2024.

**Table 15B: Allowances to current vintage auction, net of offsets under the cap**

CY	Allowances to Current Vintage Auction, Net of Offsets Under the Cap
2023	29,145,393
2024	26,273,464
2025	22,355,684
2026	17,820,826
2027	18,254,754
2028	14,903,671
2029	12,271,399
2030	9,491,077

**Note:** Table 15B is the difference between Table 15A and Table 15, representing the total allowances available for current vintage auction each year, after accounting for the anticipated use of offsets, which are "under the cap", starting in 2025.



**Table 16: Future Vintage Auctioned Allowances**

CY	State-Owned Future Vintage Allowances
2023	4,899,760
2024	3,539,833
2025	3,967,909
2026	3,489,843
2027	3,011,778
2028	2,969,371
2029	2,844,964
2030	2,720,557

**Source:** Ecology auctions 10% of the total allowance budget (Table 8) each year per [WAC 173-446-365](#).

**Assumptions:** Future vintage allowances are taken from the allowance budget three years in the future. E.g., 4,899,760 allowances are 10% of the 2026 budget (48,997,598 allowances) not 10% of the 2023 budget (63,288,565 allowances). For CY 2024 the value includes a combination of actual and forecasted future allowances sold, a reduction of 906,142 from the previous forecast (4,445,974). 1,317,000 of the possible 2,200,000 vintage 2027 allowances were sold in Auction 6. The November 2023 forecast estimated that 2,222,987 would be offered and sold. The unsold 2027 vintage allowances are added to the CY2027 current vintage allowance supply (table 17) to be offered next in 2027. The rest of the tables assume all future vintage allowances offered will be sold.

**Table 17: Current Vintage Auctioned Allowances**

CY	State-Owned Current Vintage Allowances
2023	23,906,633
2024	21,056,369
2025	17,220,919
2026	12,829,054
2027	13,466,640
2028	10,379,878
2029	8,072,590
2030	5,677,917

**Assumption:** These allowance totals are equal to the total allowance budget (Table 8) reduced by all the other allowance totals in Tables 9 through 15B. Starting with calendar year 2026, the allowance totals are further reduced by future vintage auctions of allowances (Table 16) from the 2026 allowance budget that occurred in calendar year 2023. See the assumptions in Table 16.



## Appendix B – Detailed Breakdown by Fiscal Year of the Baseline Forecast and Bounding Scenarios

The following tables are an event-by-event breakdown of each fiscal year for each of the three scenarios. The dates listed for each year are subject to change, and only made official each December when Ecology releases a list of anticipated auction dates for the following calendar year events. While current auctions will be held quarterly, specific dates are included to provide some indication of when in the fiscal year those events occur and when funds would be received by the state (roughly 4 weeks post-auction). Ecology offers the entire supply of current vintage allowances across four quarterly auctions in a calendar year.

The first column contains abbreviations for individual auction event types. These are:

- A #\_: This is an abbreviation for a regularly scheduled quarterly auction. If the auction has allowances in the future vintage column, then it is an auction with both current and future vintage supply. Quarterly Auction #1 and #2 occurred in FY 2023.
- APCR: These are Allowance Price Containment Reserve (APCR) Auctions.
- ECR: Emissions containment reserve auctions. Ecology assumes that no ECR auctions will be held for purposes of this forecast. If this changes in future forecasts, ECR allowance totals would be included in the ‘Current Vintage’ column.

### Baseline Forecast: Average of Low and High Bounding Scenarios

#### 2024 Detailed View (Actual FY 2024)

Event Name	Fiscal Year 2024	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR #1	8/9/2023			1,054,000	\$51.90	\$66.68	\$62,491,660
A #3	8/30/2023	5,657,651			\$63.03	-	\$356,601,743
APCR 2	11/8/2023			5,000,000	\$51.90	\$66.68	\$259,500,000
A #4	12/6/2023	3,442,255	2,449,760		\$51.89	\$45.00	\$288,857,805
APCR 3	2/14/2024				\$51.90	\$66.68	-
A #5	3/6/2024	5,260,000			\$25.76	-	\$135,497,600
APCR 4	5/8/2024				\$56.16	\$72.15	-
A #6	6/5/2024	5,260,000	1,317,000		\$29.92	\$24.02	\$189,013,540
<b>Total</b>		<b>19,619,906</b>	<b>3,766,760</b>	<b>6,054,000</b>			<b>\$1,291,962,347</b>

#### 2025 Detailed View (Baseline Forecast)

Event Name	Fiscal Year 2025	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 5	8/7/2024				\$56.16	\$72.15	-
A#7	9/4/2024	5,260,000			\$41.20	-	\$216,712,000
APCR 6	10/2/2024				\$56.16	\$72.15	-
ECR	September				\$41.73	-	-
APCR 7	11/6/2024				\$56.16	\$72.15	-
A#8	12/4/2024	5,276,402	2,222,832		\$42.02	\$37.57	\$305,226,000
APCR 8	2/19/2025				\$56.16	\$72.15	-
A#9	3/5/2025	4,305,229			\$42.87	-	\$184,565,000
APCR 9	5/21/2025				\$60.82	\$78.14	-
A #10	6/4/2025	4,305,230	1,983,954		\$43.73	\$39.10	\$265,840,000
<b>Total</b>		<b>19,146,861</b>	<b>4,206,786</b>	<b>-</b>			<b>\$972,343,000</b>



**2026 Detailed View (Baseline Forecast)**

Event Name	Fiscal Year 2026	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 10	8/6/2025				\$60.82	\$78.14	-
A #11	9/3/2025	4,305,230			\$44.61	-	\$192,056,000
ECR	September				\$44.61	-	-
APCR 11	10/1/2025				\$60.82	\$78.14	-
APCR 12	11/12/2025				\$60.82	\$78.14	-
A #12	12/3/2025	4,305,230	1,983,954		\$45.51	\$40.69	\$276,658,000
APCR 13	2/18/2026				\$60.82	\$83.77	-
A #13	3/4/2026	3,207,263			\$46.31	-	\$148,528,000
APCR 14	5/20/2026				\$65.20	\$83.77	-
A #14	6/3/2026	3,207,264	1,744,921		\$47.12	\$42.13	\$224,640,000
<b>Total</b>		<b>15,024,986</b>	<b>3,728,875</b>	<b>-</b>			<b>\$841,882,000</b>

**2027 Detailed View (Baseline Forecast)**

Event Name	Fiscal Year 2027	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 15	8/5/2026				\$65.20	\$83.77	-
A #15	9/2/2026	3,207,264			\$47.95	-	\$153,788,000
ECR	September				\$47.95	-	-
APCR 16	9/30/2026				\$65.20	\$83.77	-
APCR 17	11/18/2026				\$65.20	\$83.77	-
A #16	12/2/2026	3,207,264	1,744,922		\$48.79	\$43.62	\$232,596,000
APCR 18	2/17/2027				\$65.20	\$83.77	-
A #17	3/3/2027	3,366,660			\$49.67	-	\$167,222,000
APCR 19	5/19/2027				\$70.02	\$89.97	-
A #18	6/2/2027	3,366,660	1,505,889		\$50.56	\$45.21	\$238,300,000
<b>Total</b>		<b>13,147,848</b>	<b>3,250,811</b>	<b>-</b>			<b>\$791,906,000</b>

**2028 Detailed View (Baseline Forecast)**

Event Name	Fiscal Year 2028	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 20	8/4/2027				\$70.02	\$89.97	-
A#19	9/1/2027	3,366,660			\$51.47	-	\$173,282,000
APCR 21	9/29/2027				\$70.02	\$89.97	-
Price Ceiling Se	10/27/2027				\$109.91	-	-
APCR 22	11/10/2027				\$70.02	\$89.97	-
A#20	12/1/2027	3,366,660	1,505,889		\$52.40	\$46.85	\$246,964,000
APCR 23	2/16/2028				\$70.02	\$89.97	-
A#21	3/1/2028	2,594,970			\$53.33	-	\$138,390,000
APCR	5/24/2028				\$75.13	\$96.54	-
A#22	6/7/2028	2,594,970	1,484,686		\$54.28	\$48.53	\$212,907,000
<b>Total</b>		<b>11,923,259</b>	<b>2,990,575</b>	<b>-</b>			<b>\$771,543,000</b>

**2029 Detailed View (Baseline Forecast)**

Event Name	Fiscal Year 2029	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 25	8/9/2028				\$75.13	\$96.54	-
A#23	9/6/2028	2,594,970			\$55.24	-	\$143,346,000
ECR	September				\$55.24	-	-
APCR 26	10/25/2028				\$75.13	\$96.54	-
APCR 27	11/15/2028				\$75.13	\$96.54	-
A#24	12/6/2028	2,594,970	1,484,686		\$56.22	\$50.27	\$220,524,000
APCR 28	2/21/2029				\$75.13	\$96.54	-
A#25	3/7/2029	2,018,148			\$57.22	\$51.16	\$115,478,000
APCR 29	5/23/2029				\$80.61	\$103.59	-
A#26	6/6/2029	2,018,148	1,422,482		\$58.24	\$52.07	\$191,606,000
<b>Total</b>		<b>9,226,234</b>	<b>2,907,168</b>	<b>-</b>			<b>\$670,954,000</b>



Low Bounding Scenario: California / Québec Price

2024 Detailed View (Actual FY 2024)

Event Name	Fiscal Year 2024	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR #1	8/9/2023			1,054,000	\$51.90	\$66.68	\$62,491,660
A #3	8/30/2023	5,657,651			\$63.03	-	\$356,601,743
APCR 2	11/8/2023			5,000,000	\$51.90	\$66.68	\$259,500,000
A #4	12/6/2023	3,442,255	2,449,760		\$51.89	\$45.00	\$288,857,805
APCR 3	2/14/2024				\$51.90	\$66.68	-
A #5	3/6/2024	5,260,000			\$25.76	-	\$135,497,600
APCR 4	5/8/2024				\$56.16	\$72.15	-
A #6	6/5/2024	5,260,000	1,317,000		\$29.92	\$24.02	\$189,013,540
<b>Total</b>		<b>19,619,906</b>	<b>3,766,760</b>	<b>6,054,000</b>			<b>\$1,291,962,347</b>

2025 Detailed View (Low Scenario)

Event Name	Fiscal Year 2025	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 5	8/7/2024				\$56.16	\$72.15	-
A #7	9/4/2024	5,260,000			\$38.92	-	\$204,719,000
APCR 6	10/2/2024				\$56.16	\$72.15	-
ECR	September				\$39.42	-	-
APCR 7	11/6/2024				\$56.16	\$72.15	-
A #8	12/4/2024	5,276,402	2,222,832		\$39.69	\$39.25	\$296,667,000
APCR 8	2/19/2025				\$56.16	\$72.15	-
A #9	3/5/2025	4,305,229			\$40.49	-	\$174,319,000
APCR 9	5/21/2025				\$60.82	\$78.14	-
A #10	6/4/2025	4,305,230	1,983,954		\$41.31	\$40.85	\$258,894,000
<b>Total</b>		<b>19,146,861</b>	<b>4,206,786</b>	-			<b>\$934,599,000</b>

2026 Detailed View (Low Scenario)

Event Name	Fiscal Year 2026	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 10	8/6/2025				\$60.82	\$78.14	-
A #11	9/3/2025	4,305,230			\$42.14	-	\$181,422,000
ECR	September				\$42.14	-	-
APCR 11	10/1/2025				\$60.82	\$78.14	-
APCR 12	11/12/2025				\$60.82	\$78.14	-
A #12	12/3/2025	4,305,230	1,983,954		\$42.99	\$42.51	\$269,420,000
APCR 13	2/18/2026				\$60.82	\$83.77	-
A #13	3/4/2026	3,207,263			\$43.74	-	\$140,286,000
APCR 14	5/20/2026				\$65.20	\$83.77	-
A #14	6/3/2026	3,207,264	1,744,921		\$44.51	\$44.01	\$219,549,000
<b>Total</b>		<b>15,024,986</b>	<b>3,728,875</b>	-			<b>\$810,677,000</b>

2027 Detailed View (Low Scenario)

Event Name	Fiscal Year 2027	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 15	8/5/2026				\$65.20	\$83.77	-
A #15	9/2/2026	3,207,264			\$45.29	-	\$145,257,000
ECR	September				\$45.29	-	-
APCR 16	9/30/2026				\$65.20	\$83.77	-
APCR 17	11/18/2026				\$65.20	\$83.77	-
A #16	12/2/2026	3,207,264	1,744,922		\$46.08	\$45.57	\$227,307,000
APCR 18	2/17/2027				\$65.20	\$83.77	-
A #17	3/3/2027	3,366,660			\$46.91	-	\$157,930,000
APCR 19	5/19/2027				\$70.02	\$89.97	-
A #18	6/2/2027	3,366,660	1,505,889		\$47.75	\$47.23	\$231,881,000
<b>Total</b>		<b>13,147,848</b>	<b>3,250,811</b>	-			<b>\$762,375,000</b>



**2028 Detailed View (Low Scenario)**

Event Name	Fiscal Year 2028	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 20	8/4/2027				\$70.02	\$89.97	-
A#19	9/1/2027	3,366,660			\$48.61	-	\$163,653,000
APCR 21	9/29/2027				\$70.02	\$89.97	-
Price Ceiling Sale	10/27/2027				\$109.91	-	-
APCR 22	11/10/2027				\$70.02	\$89.97	-
A#20	12/1/2027	3,366,660	1,505,889		\$49.49	\$48.95	\$240,329,000
APCR 23	2/16/2028				\$70.02	\$89.97	-
A#21	3/1/2028	2,594,970			\$50.37	-	\$130,709,000
APCR	5/24/2028				\$75.13	\$96.54	-
A#22	6/7/2028	2,594,970	1,484,686		\$51.27	\$50.71	\$208,332,000
<b>Total</b>		<b>11,923,259</b>	<b>2,990,575</b>	<b>-</b>			<b>\$743,023,000</b>

**2029 Detailed View (Low Scenario)**

Event Name	Fiscal Year 2029	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 25	8/9/2028				\$75.13	\$96.54	-
A#23	9/6/2028	2,594,970			\$52.18	-	\$135,406,000
ECR	September				\$52.18	-	-
APCR 26	10/25/2028				\$75.13	\$96.54	-
APCR 27	11/15/2028				\$75.13	\$96.54	-
A#24	12/6/2028	2,594,970	1,484,686		\$53.11	\$52.53	\$215,809,000
APCR 28	2/21/2029				\$75.13	\$96.54	-
A#25	3/7/2029	2,018,148			\$54.05	\$53.46	\$109,081,000
APCR 29	5/23/2029				\$80.61	\$103.59	-
A#26	6/6/2029	2,018,148	1,422,482		\$55.01	\$54.41	\$188,416,000
<b>Total</b>		<b>9,226,234</b>	<b>2,907,168</b>	<b>-</b>			<b>\$648,712,000</b>

**High Bounding Scenario: Average of Washington's Past Year's Prices**

**2024 Detailed View (Actual FY 2024)**

Event Name	Fiscal Year 2024	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR #1	8/9/2023			1,054,000	\$51.90	\$66.68	\$62,491,660
A #3	8/30/2023	5,657,651			\$63.03	-	\$356,601,743
APCR 2	11/8/2023			5,000,000	\$51.90	\$66.68	\$259,500,000
A #4	12/6/2023	3,442,255	2,449,760		\$51.89	\$45.00	\$288,857,805
APCR 3	2/14/2024				\$51.90	\$66.68	-
A #5	3/6/2024	5,260,000			\$25.76	-	\$135,497,600
APCR 4	5/8/2024				\$56.16	\$72.15	-
A #6	6/5/2024	5,260,000	1,317,000		\$29.92	\$24.02	\$189,013,540
<b>Total</b>		<b>19,619,906</b>	<b>3,766,760</b>	<b>6,054,000</b>			<b>\$1,291,962,347</b>

**2025 Detailed View (High Scenario)**

Event Name	Fiscal Year 2025	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 5	8/7/2024				\$56.16	\$72.15	-
A #7	9/4/2024	5,260,000			\$43.50	-	\$228,810,000
APCR 6	10/2/2024				\$56.16	\$72.15	-
ECR	September				\$44.06	-	-
APCR 7	11/6/2024				\$56.16	\$72.15	-
A #8	12/4/2024	5,276,402	2,222,832		\$44.37	\$35.90	\$313,914,000
APCR 8	2/19/2025				\$56.16	\$72.15	-
A #9	3/5/2025	4,305,229			\$45.26	-	\$194,855,000
APCR 9	5/21/2025				\$60.82	\$78.14	-
A #10	6/4/2025	4,305,230	1,983,954		\$46.17	\$37.36	\$272,893,000
<b>Total</b>		<b>19,146,861</b>	<b>4,206,786</b>	<b>-</b>			<b>\$1,010,472,000</b>



**2026 Detailed View (High Scenario)**

Event Name	Fiscal Year 2026	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 10	8/6/2025				\$60.82	\$78.14	-
A #11	9/3/2025	4,305,230			\$47.10	-	\$202,776,000
ECR	September				\$47.10	-	-
APCR 11	10/1/2025				\$60.82	\$78.14	-
APCR 12	11/12/2025				\$60.82	\$78.14	-
A #12	12/3/2025	4,305,230	1,983,954		\$48.05	\$38.88	\$284,002,000
APCR 13	2/18/2026				\$60.82	\$83.77	-
A #13	3/4/2026	3,207,263			\$48.89	-	\$156,803,000
APCR 14	5/20/2026				\$65.20	\$83.77	-
A #14	6/3/2026	3,207,264	1,744,921		\$49.75	\$40.26	\$229,812,000
<b>Total</b>		<b>15,024,986</b>	<b>3,728,875</b>	<b>-</b>			<b>\$873,393,000</b>

**2027 Detailed View (High Scenario)**

Event Name	Fiscal Year 2027	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 15	8/5/2026				\$65.20	\$83.77	-
A #15	9/2/2026	3,207,264			\$50.62	-	\$162,352,000
ECR	September				\$50.62	-	-
APCR 16	9/30/2026				\$65.20	\$83.77	-
APCR 17	11/18/2026				\$65.20	\$83.77	-
A #16	12/2/2026	3,207,264	1,744,922		\$51.51	\$41.68	\$237,934,000
APCR 18	2/17/2027				\$65.20	\$83.77	-
A #17	3/3/2027	3,366,660			\$52.44	-	\$176,548,000
APCR 19	5/19/2027				\$70.02	\$89.97	-
A #18	6/2/2027	3,366,660	1,505,889		\$53.38	\$43.19	\$244,752,000
<b>Total</b>		<b>13,147,848</b>	<b>3,250,811</b>	<b>-</b>			<b>\$821,586,000</b>

**2028 Detailed View (High Scenario)**

Event Name	Fiscal Year 2028	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 20	8/4/2027	-			\$70.02	\$89.97	-
A#19	9/1/2027	3,366,660			\$54.34	-	\$182,944,000
APCR 21	9/29/2027				\$70.02	\$89.97	-
Price Ceiling Sale	10/27/2027				\$109.91	-	-
APCR 22	11/10/2027				\$70.02	\$89.97	-
A#20	12/1/2027	3,366,660	1,505,889		\$55.32	\$44.76	\$253,647,000
APCR 23	2/16/2028				\$70.02	\$89.97	-
A#21	3/1/2028	2,594,970			\$56.30	-	\$146,097,000
APCR	5/24/2028				\$75.13	\$96.54	-
A#22	6/7/2028	2,594,970	1,484,686		\$57.30	\$46.36	\$217,522,000
<b>Total</b>		<b>11,923,259</b>	<b>2,990,575</b>	<b>-</b>			<b>\$800,210,000</b>

**2029 Detailed View (High Scenario)**

Event Name	Fiscal Year 2029	Current Vintage Allowances	Future Vintage Allowances	APCR Allowances	Current / APCR Tier 1 Price	Future / APCR Tier 2 Price	Auction Proceeds
APCR 25	8/9/2028				\$75.13	\$96.54	-
A#23	9/6/2028	2,594,970			\$58.32	-	\$151,339,000
ECR	September				\$58.32	-	-
APCR 26	10/25/2028				\$75.13	\$96.54	-
APCR 27	11/15/2028				\$75.13	\$96.54	-
A#24	12/6/2028	2,594,970	1,484,686		\$59.36	\$48.02	\$225,332,000
APCR 28	2/21/2029				\$75.13	\$96.54	-
A#25	3/7/2029	2,018,148			\$60.41	\$48.87	\$121,916,000
APCR 29	5/23/2029				\$80.61	\$103.59	-
A#26	6/6/2029	2,018,148	1,422,482		\$61.48	\$49.74	\$194,830,000
<b>Total</b>		<b>9,226,234</b>	<b>2,907,168</b>	<b>-</b>			<b>\$693,417,000</b>