



## Cap-and-Invest Linkage Criteria: Draft Findings

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## Acronyms and Abbreviations

<b>Acronym/Abbreviation</b>	<b>Definition</b>
AB	California Assembly Bill
APCR	Allowance Price Containment Reserve
CA	California
CAD	Canadian Dollars
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCA	Climate Commitment Act (RCW 70A.65)
CETA	Clean Energy Transformation Act
DAC	Disadvantaged community, as designated in California
DEB	Direct environmental benefits, as related to offset projects
Ecology	Washington State Department of Ecology
ECR	Emissions Containment Reserve
Emissions	Greenhouse gas emissions, unless otherwise noted
HB	House Bill
HEAL	Healthy Environment For All Act (RCW 70A.02)
PCU	Price ceiling unit
Program	Cap-and-Invest Program
QC	Québec
RCW	Revised Code of Washington
SB	Senate Bill
WAC	Washington Administrative Code
WCI, Inc	Western Climate Initiative, Inc

See Appendix A: Technical Terms for an explanation of technical terms used in this document.

# Executive Summary

Washington is required to reduce greenhouse gas emissions statewide, compared to 1990 levels, 45% by 2030, 70% by 2040, and 95% by 2050.<sup>1</sup> To meet these limits, the Washington State Legislature passed the Climate Commitment Act (CCA) in 2021, along with a suite of complementary climate policies. The CCA created the Cap-and-Invest Program, an economy-wide program to reduce greenhouse gas emissions by putting a price on emissions and creating a carbon market.

Recognizing the benefits that could come with joining a larger market, the CCA directs the Washington Department of Ecology (Ecology) to “seek to enter into linkage agreements with other jurisdictions” in order to “broaden greenhouse gas emission reduction opportunities to reduce the cost of compliance on covered entities and consumers.”<sup>2</sup> Soon after the Program launched in 2023, Ecology began pursuing “linkage” with California and Québec. The California-Québec market is six times bigger than Washington’s market and has been linked since 2014.

If Washington links with California and Québec, each jurisdiction would retain control over its allowance supplies and how revenue is spent. However, allowances could be used to cover emissions in any of the three jurisdictions, regardless of which jurisdiction originally added them to the market. In a linked market, Washington market participants would gain access to a larger pool of allowances through joint auctions, and there would be a common allowance price across all the jurisdictions. Market participants would also be able to trade allowances across jurisdictions, increasing liquidity in the market. For example, a market participant in Washington could sell allowances to a market participant in California.

In order for Washington to link, Ecology must evaluate whether linking with a particular jurisdiction would achieve the purposes and meet the criteria laid out in the CCA. These criteria include lowering compliance costs for Washington businesses, not interfering with Washington’s ability to meet its limits on greenhouse gas emissions, ensuring the other jurisdiction’s programs benefit overburdened communities, and determining that linkage would not have an overall negative impact on communities in any jurisdiction that already suffer disproportionately from pollution.<sup>3</sup>

After extensive analysis and public engagement, Ecology determines that linking with California and Québec would achieve the CCA’s linkage purposes and criteria. We found that a linked market is likely to result in comparable greenhouse gas reductions but at a lower cost for Washington businesses, making linkage a path toward more cost-effectively addressing the global climate crisis, while retaining each jurisdiction’s environmental justice provisions.

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<sup>1</sup> RCW 70A.45.020

<sup>2</sup> RCW 70A.65.210(1)

<sup>3</sup> RCW 70A.65.210(3)

## **Our process**

Since early 2023, Ecology has conducted outreach and engagement on linkage. Throughout this time, Ecology sought input from Tribal leaders and staff, the Environmental Justice Council, the public, academics, and interested parties – including community-based organizations, environmental organizations, environmental justice organizations, and Cap-and-Invest market participants.

Ecology used several strategies to engage with the public statewide, including the creation and maintenance of a dedicated webpage, blog updates, individual and small group meetings, online public meetings, online surveys and comment forms, email updates to the CCA mailing list, and direct outreach to individuals and groups. During those public engagement opportunities, participants could share overall thoughts on linkage or specific recommendations related to the linkage criteria and linkage agreement.

Commenters' responses varied in their degree of support for or concerns regarding linkage. Commenters offered recommendations for Ecology to consider related to the linkage criteria, the linkage agreement, rulemaking, and implementation of the Cap-and-Invest Program generally. Ecology staff reviewed all comments and resources provided and considered them during our analysis and decision making. Comments will additionally be considered during future phases, including when finalizing the linkage agreement and before the Ecology Director's decision on whether to link.

In October 2023, Ecology issued the *Cap-and-Invest Linkage Criteria: Preliminary Analysis Report*<sup>4</sup> and made the decision to pursue linkage with California and Québec. This report builds on that 2023 analysis and includes new research and modeling, as well as information collected through public comments. Ecology contracted with Western Washington University and the University of California to compare potential economic and environmental outcomes of Washington's Cap-and-Invest Program if it remains a standalone program (no linkage) with potential outcomes if Washington enters into a combined carbon market with California and Québec (linkage). The University of California team built a model of the Washington standalone carbon market and a linked Washington-California-Québec carbon market to estimate allowance prices and greenhouse gas emissions. Western Washington University conducted a review of academic literature and provided research and analysis of the linkage criteria.

## **Findings: Costs and greenhouse gas reductions**

Linkage is expected to lead to lower overall costs for Washington businesses as they decarbonize due to increased market stability and lower allowance prices. Lower costs for Washington businesses would also lessen impacts on consumers in cases where businesses decide to pass their compliance costs on to their customers.

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<sup>4</sup> Washington Department of Ecology. (October 2023). Linkage Criteria: Preliminary Analysis Report. <https://apps.ecology.wa.gov/publications/summarypages/2314005.html>.

In general, economic theory suggests that larger and more established markets are less susceptible to price swings and have lower costs. The California-Québec market is over six times the size of Washington's market and has been operating for over ten years. Allowance prices in that market have typically been lower and more stable than allowance prices in the Washington market. In a linked market, we expect Washington businesses to experience more predictable allowance prices, giving them the certainty they need to make long-term investments in decarbonization. More investment in emissions-reducing technologies could ultimately reduce the cost of decarbonization through economies of scale.

In addition to lowering the cost of decarbonization through market stability, we expect Washington businesses to see lower allowance prices in the years following linkage. The significant difference in market size is anticipated to cause allowance prices in a Washington-California-Québec linked market to be largely influenced by the price in the California-Québec market. The modeling estimates that allowance prices would be significantly lower for Washington businesses through the modeled time period (through 2030). The long-term picture is less certain. Because allowance supplies in all three jurisdictions will decline over time to further incentivize decarbonization, we expect allowance prices to increase over time. Allowance prices in a larger linked market are likely to remain below allowance prices in a smaller standalone Washington market due to the points made above.

In a linked market, we also expect to achieve the same or greater greenhouse gas emissions reductions. Each jurisdiction's required emissions reductions would remain in place after linkage. The modeling estimates that in a linked market, emissions across the linked jurisdictions would be comparable (less than 0.5% difference) compared to the unlinked scenario.

Ecology chose to model through 2030 to analyze potential impacts from linkage on the upcoming statutory emissions reduction requirement – to reduce emissions to 45% below 1990 levels by 2030. These modeling results are based on conservative assumptions about demand for allowances. The model also does not account for emissions reductions from investments made using Cap-and-Invest Program revenues. Actual emissions could be higher or lower than projected, but because we used conservative assumptions, it is likely that the real world could outperform the assumptions used in our modeling resulting in lower emissions than projected. The modeling cannot account for unpredictable external factors, such as national and international economics and politics and transformative technologies that may drastically lower the cost of decarbonizing. Models discussed in this report serve as valuable analytical tools, but they have limitations and may not accurately predict the future. This is especially true the further out in the future, as more unknowns necessitate more assumptions. The modeling results included in this report are for the purpose of understanding potential impacts of linkage and do not constitute a forecast of a standalone or linked market by Ecology.

Another factor the model does not account for is the impact of uncertainty on the market. Reviews of economic literature and conversations with businesses covered by the Program have emphasized the importance of regulatory certainty for businesses making decisions about

large capital investments, including those enabling greenhouse gas emissions reductions. As mentioned above, linkage is likely to result in more predictable allowance prices and a more stable market which helps those businesses to plan and implement decarbonization projects.

We also expect linkage to lead to more cost-effective emissions reductions. Expanding the number of entities in a carbon market allows for emissions reductions to occur wherever they can be achieved at the lowest cost.

Additional details about expected costs and greenhouse gas reductions can be found in Sections 4.2 and 4.3.

### **Findings: Community impacts**

Linkage would not change or weaken the various mechanisms Washington, California, and Québec use to ensure that their carbon markets benefit communities that have historically suffered disproportionately from pollution. In a linked market, Washington would still have full control over how it spends CCA revenue. By law, at least 35% of CCA revenue must benefit vulnerable populations in communities that have been the most harmed by pollution. So far, Washington is surpassing that requirement—during the 2023-25 biennium, over 60% of CCA revenue met that standard. Additionally, at least 10% of CCA revenue must go to projects with Tribal support. Ecology’s analysis also found that communities would benefit from linkage through more cost-effective greenhouse gas emissions reductions, greater market stability, and more predictable sources of revenue for environmental justice projects over the long term.

Throughout the linkage process, Ecology heard concerns about the potential impacts of linkage on local air quality in Washington. Though carbon markets may lead to uneven reductions across individual sources of greenhouse gas emissions, Ecology did not find evidence that carbon markets exacerbate air quality disparities generally, nor that linkage specifically would exacerbate air quality disparities. Linkage is expected to support continued greenhouse gas reductions in Washington and drive investment, innovation, and adoption of low-carbon technologies that reduce our reliance on fossil fuel combustion. As a result, linkage may support reductions in criteria air pollution, particularly as covered entities increasingly electrify processes, leverage renewable energy sources, and employ more energy efficient technologies. In a linked market, Washington would also continue to implement the provisions in the CCA that direct Ecology to reduce criteria air pollutants in overburdened communities highly impacted by air pollution. Ecology began this work soon after the CCA took effect. It includes increasing air monitoring in 16 designated communities, funding local air quality projects, reporting on air quality disparities and associated health outcomes every two years, and working to develop new policies that reduce criteria air pollutants in those communities. As of the publication of this report, Ecology has:

- Leveraged CCA funding to greatly expand its air monitoring network across the 16 overburdened communities.
- Launched a \$10 million, CCA-funded grant program for local projects that reduce criteria air pollutants.
- Started a rulemaking to consider new air quality policies.

California and Québec also have provisions in place to ensure that their programs provide benefits to overburdened communities. Those are expected to continue as well.

Additional details about expected environmental justice impacts can be found in Sections 4.4 and 4.5. In addition to this analysis, Ecology released a draft Environmental Justice Assessment<sup>5</sup> that evaluates the anticipated benefits and harms from linking carbon markets. The Environmental Justice Assessment includes more detail about communities that could be impacted by linkage, comments Ecology received related to linkage and environmental justice, and the actions Ecology is taking to address those concerns.

### **Next steps**

The process to link markets is multi-step and started in January 2023.

In addition to finalizing this assessment of the linkage criteria and purposes, Ecology must also ensure that a linkage agreement between the three jurisdictions includes certain provisions, including those related to operating a joint market, and a process for resolving disagreements. Ecology worked with counterparts in California and Québec to develop a draft agreement that satisfies the provisions laid out in the CCA. Additional details can be found in Section 5 of this report.

The following steps need to be completed by Ecology before the three jurisdictions could begin operating a linked market:

- Complete an Environmental Justice Assessment: Ecology shared a draft Environmental Justice Assessment<sup>6</sup> and will finalize that Assessment before making a decision on whether to sign a linkage agreement.
- Solicit public input on the draft linkage agreement:<sup>7</sup> This process is underway at the time of this document’s publication.

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<sup>5</sup> Washington Department of Ecology. April 2026. Potential linkage of Cap-and-Invest carbon market with the joint California-Québec carbon market (Draft): An Environmental Justice Assessment (per RCW 70A.02.060).

<https://apps.ecology.wa.gov/publications/summarypages/2614019.html>.

<sup>6</sup> Washington Department of Ecology. April 2026. Potential linkage of Cap-and-Invest carbon market with the joint California-Québec carbon market (Draft): An Environmental Justice Assessment (per RCW 70A.02.060).

<https://apps.ecology.wa.gov/publications/summarypages/2614019.html>.

<sup>7</sup> State of Washington and State of California and Gouvernement Du Québec. 2026. Agreement On the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California and the State of Washington Draft.

<https://apps.ecology.wa.gov/publications/summarypages/2614018.html>.

- State Environmental Policy Act environmental review: Ecology has published its SEPA analysis of linkage and made a determination of non-significance.<sup>8</sup>
- Align carbon market policies: This process is underway through the Cap-and-Invest Program Updates and Linkage Rulemaking.<sup>9</sup> We expect to adopt rule changes in summer 2026.
- Sign a linkage agreement.

California and Québec also each need to go through their own respective processes to determine whether to link with Washington. Depending on when linkage process steps and regulatory changes are completed by all three jurisdictions, Ecology anticipates we could begin operating a linked market in 2027.

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<sup>8</sup> The SEPA Environmental Checklist and Determination of Non-Significance for the project “Linkage with the California-Québec Carbon Market” are posted on the SEPA Register:

<https://apps.ecology.wa.gov/separ/Main/SEPA/Record.aspx?SEPANumber=202601519>.

<sup>9</sup> Washington Department of Ecology. Chapters 173-441 and 173-446 WAC – Cap-and-Invest Program Updates and Linkage. <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-441-446-cap-and-invest-program-updates-and-linkage>

# 1 Background

The Climate Commitment Act (CCA) directs the Washington Department of Ecology (Ecology) to “consider opportunities to implement the [greenhouse gas emissions Cap-and-Invest] program in a manner that allows linking the state's program with those of other jurisdictions”<sup>10</sup> and “seek to enter into linkage agreements with other jurisdictions with external greenhouse gas emissions trading programs.”<sup>11</sup> The CCA specifies criteria that Ecology must use to determine whether to link (referred to in this document as “linkage criteria”) and gives Ecology authority to enter into linkage agreements.<sup>12</sup>

In January 2023, Ecology began exploring linkage with California and Québec, two jurisdictions that have an existing linked carbon market. In October 2023, Ecology completed a preliminary analysis of the linkage criteria.<sup>13</sup> This report builds on that 2023 analysis and includes new research and modeling from Western Washington University and the University of California, as well as information collected through public comment processes and additional research and analysis by Ecology staff.

The question of whether Washington will link with California and Québec is still undecided. Comments received from Tribes, the Environmental Justice Council, market participants, interested parties, and the public, as well as the Environmental Justice Assessment and Ecology’s analysis of the linkage criteria, will inform the Director of Ecology’s decision on whether to link with California and Québec. California and Québec would also each need to go through their own respective processes to determine whether to link with Washington.

## 1.1 Washington’s Cap-and-Invest Program

Washington is required to reduce greenhouse gas emissions<sup>14</sup> statewide, compared to 1990 levels, 45% by 2030, 70% by 2040, and 95% by 2050.<sup>15</sup> In 2021, the Washington State Legislature passed the CCA, creating the Cap-and-Invest Program (Program), a comprehensive and economy-wide policy designed to help Washington achieve those emissions reductions. Generally, businesses and entities are covered under the Program if they generate covered emissions of 25,000 metric tons of carbon dioxide equivalent per year or more. Sectors and businesses that participate in the Program include transportation fuel suppliers, suppliers of natural gas, electricity importers, in-state electricity generators, industrial manufacturing facilities, waste-to-energy facilities (starting in 2027), and railroads (starting in the third compliance period).

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<sup>10</sup> RCW 70.65.060(3)

<sup>11</sup> RCW 70A.65.210(1)

<sup>12</sup> RCW 70A.65.210

<sup>13</sup> Washington Department of Ecology. (October 2023). Linkage Criteria: Preliminary Analysis Report.

<https://apps.ecology.wa.gov/publications/summarypages/2314005.html>.

<sup>14</sup> Throughout this document, the term “emissions” refers to “greenhouse gas emissions” unless otherwise noted.

<sup>15</sup> RCW 70A.45.020

The current climate emergency cannot be addressed with a single program – and Washington state agencies administer a suite of complementary policies designed to reduce emissions statewide. However, Cap-and-Invest is the most impactful and far-reaching climate program in Washington’s history, and it plays a pivotal role in our state’s ability to effectively mitigate greenhouse gas emissions and minimize the worst impacts of climate change.

The Legislature intended for the Cap-and-Invest Program to be a demonstration of Washington’s leadership in addressing climate change,<sup>16</sup> and a successful Cap-and-Invest Program in Washington may serve as a model for similar policies in other states and jurisdictions. While California’s and Québec’s programs served as a model for Washington, many states with smaller economies than California are looking to our Cap-and-Invest Program as evidence that comprehensive statewide emissions reduction policies can be feasible and effective even in states with more modest resources. Because greenhouse gases contribute to global climate change no matter where they are emitted, reduced emissions in other states will provide climate benefits just as much as reductions in Washington. The adoption of similar greenhouse gas reduction policies in other states is more likely if those states have a roadmap to follow.

The CCA is not just about reducing impacts from climate change, but also about improving the air we breathe. A durable, economy-wide greenhouse gas emissions-reduction program has the potential not only to reduce greenhouse gases but also other types of associated air pollution. The CCA has provisions that ensure these benefits flow to communities most impacted by air pollution.

### **1.1.1 How does Cap-and-Invest work?**

Entities required to participate in the Program must obtain allowances equivalent to their covered emissions (called their “compliance obligation”). One allowance meets the compliance obligation for one ton of greenhouse gas emissions. While the CCA requires that some types of entities receive allowances for free, most need to purchase allowances, primarily during quarterly auctions administered by Ecology. The proceeds from these quarterly auctions are required by law to go to projects focusing on clean transportation, increasing climate resiliency in our ecosystems and communities, addressing issues of environmental justice and health inequity in our state, and other priorities.

Entities can also buy allowances from other market participants (in what is called the “secondary market”) or cover a small portion of their compliance obligation with offset credits issued by Ecology for qualified projects. Together, allowances and offset credits are referred to as “compliance instruments.”

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<sup>16</sup> RCW 70A.65.005(6)

## 1.2 What is linkage?

When the CCA was passed in 2021, there was only one state in the U.S. – California – with an economy-wide greenhouse gas emissions trading program. California began its program in 2012, and a year later a similar program was started in Québec, Canada. California and Québec linked their programs in 2014, creating a shared carbon market.

The CCA directs Ecology to “seek to enter into linkage agreements with other jurisdictions,” and Washington’s Cap-and-Invest Program was designed to be compatible with the existing California-Québec joint market.<sup>17</sup>

### 1.2.1 How would a linked market work?

In a linked market, Washington’s carbon market would combine with the joint California-Québec market to create a single shared market. Allowances could be used to cover emissions in any of the three jurisdictions, regardless of which jurisdiction originally added them to the market.

A linked market would have joint allowance auctions with a common allowance price across all the jurisdictions. Before each auction, each of the three jurisdictions would decide how many allowances to offer for sale based on that jurisdiction’s overall greenhouse gas limit for that year and other factors. Market participants from all three jurisdictions would then purchase allowances from the joint auction, all at the same auction settlement price. After an auction, each jurisdiction’s auction proceeds are calculated based on the number of allowances it put into the joint auction. So, for example, if Washington put 30% of the allowances into a joint auction, it would receive 30% of the auction proceeds.

Market participants would also be able to trade allowances across jurisdictions, meaning a business in Washington could sell allowances to a business in California, for example.

California and Québec have a mechanism in place to account for the flow of compliance instruments across the linked jurisdictions pursuant to Article 8 of their linkage agreement.<sup>18</sup> Washington expects to use the same process if we join the linked market.<sup>19</sup>

### 1.2.2 Why are we looking at linking now?

Recognizing the benefits that could come with joining a larger market, the CCA directs Ecology to consider linking. Ecology began exploring linkage soon after Washington’s Cap-and-Invest Program launched in 2023, so that Washington’s economy and communities could begin reaping the benefits of a larger, more efficient market as soon as possible.

Market-based programs like Cap-and-Invest are widely regarded as the most cost-effective way to reduce greenhouse gas emissions. However, newer and small markets may experience price volatility as businesses adjust to the program. The introduction of new financial instruments

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<sup>17</sup> RCW 70A.65.210(1)

<sup>18</sup> California Air Resources Board. Accounting Mechanism for Article 8 of the 2017 Linkage Agreement. June 2022. [https://ww2.arb.ca.gov/sites/default/files/2022-06/nc-Article\\_8\\_Accounting\\_Mechanism.pdf](https://ww2.arb.ca.gov/sites/default/files/2022-06/nc-Article_8_Accounting_Mechanism.pdf)

<sup>19</sup> See Section 4.3.2 for more information on the accounting mechanism.

(allowances) and compliance deadlines can cause uncertainty about allowance scarcity, especially in the early years of the program. Washington has ambitious, near-term limits on greenhouse gases that create a tight supply of allowances relative to demand, so linkage in the early years of the Program could be an important part of ensuring its long-term success.

In a tight market, high allowance prices can negatively impact consumers if businesses elect to pass along their compliance costs in the form of higher prices for goods like gasoline, home heating fuel, or food products. Higher costs could erode public support for the Program before the market has an opportunity to stabilize and drive the scale of investment needed to bring down the cost of emissions reducing technologies and lower demand for allowances.

As we will discuss in greater depth, the shared market in California and Québec is roughly six times the size of Washington’s standalone market. Joining this larger market is expected to produce more sustainable market conditions with lower and more stable allowance prices, and substantially increased overall liquidity, thereby improving market confidence and mitigating price volatility.

Affordability is key to maintaining public support for Washington’s Cap-and-Invest Program. Just as critically, Washington and other governments need to immediately reduce greenhouse gas emissions as our ecosystems and communities face increasingly consequential impacts from climate change. Without Washington’s Cap-and-Invest Program, Washington would be unable to meet its statutory limits on greenhouse gases. Therefore, Ecology chose to pursue linkage soon after Cap-and-Invest began to create a durable, cost-effective Program.

### **1.3 How Cap-and-Invest advances decarbonization**

The Cap-and-Invest Program is designed to address the current climate crisis on three critical fronts: by reducing greenhouse gas emissions economy-wide, by creating a growing market for cleaner technologies and energy sources, and by funding environmental justice and climate resilience efforts in our state. These goals would not change in a linked market. The following discussion of some key aspects of Washington’s Cap-and-Invest Program provides context for the analysis of linkage included in Section 3.

#### **1.3.1 Supply and demand creates financial incentives**

Under the Cap-and-Invest Program, Ecology establishes an overall “cap” on the amount of allowable greenhouse gas emissions each year, and decreases the cap annually to ensure that covered entities are reducing their emissions in proportion to the reductions required for Washington to achieve the greenhouse gas emissions limits established in RCW 70A.45.020.<sup>20</sup>

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<sup>20</sup> RCW 70A.65.060(1)

To meet Washington's legislatively mandated greenhouse gas emissions limits, the Program requires more aggressive reductions in the early years through 2030 to meet the 45% reduction limit, with the pace of reduction moderating in the subsequent decades through 2050 (see Figure 1).<sup>21</sup>

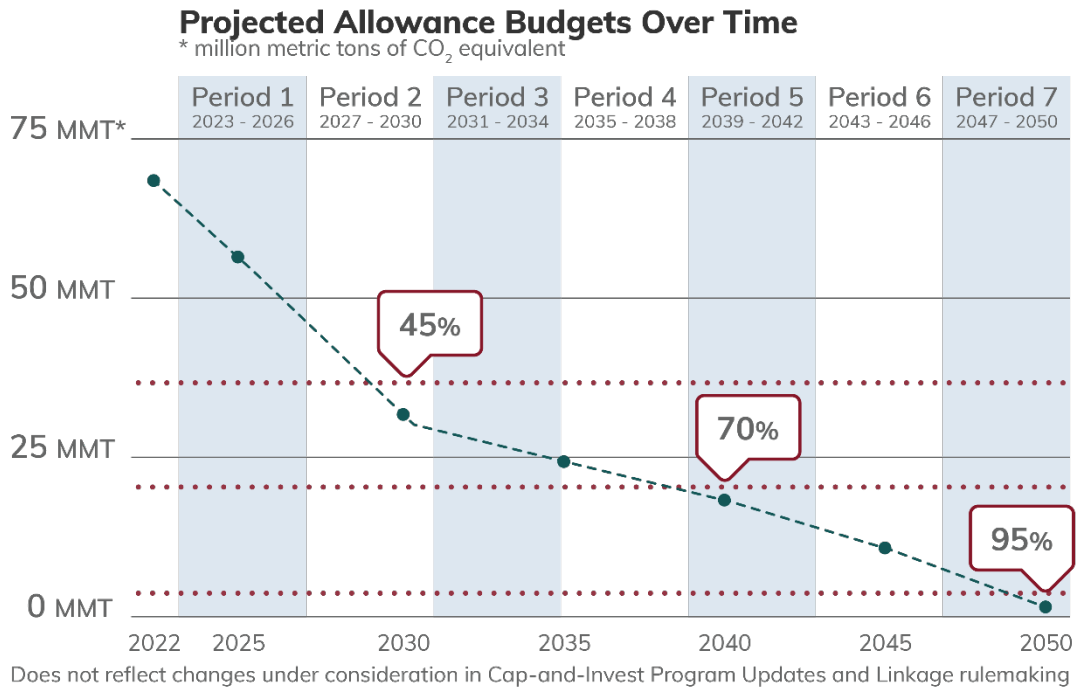


Figure 1: Washington's projected allowance budgets from 2023-2050

Once the greenhouse gas emissions cap is set, Ecology issues “allowances” equal to that cap. One allowance is equal to one metric ton of greenhouse gas emissions. Entities required to participate in the Program must obtain these allowances to cover their greenhouse gas emissions each year. If entities elect not to reduce their greenhouse gas emissions, allowances will quickly become more expensive due to competition between entities for the limited number of allowances available. As the cap reduces, the number of allowances (supply) drops each year, so entities are progressively incentivized to reduce their greenhouse gas emissions (demand) to avoid escalating compliance costs.

Simply put, the Cap-and-Invest Program uses market forces to incentivize statewide decarbonization in the most economically efficient way possible.

<sup>21</sup> WAC 173-446-210. The initial rate of emissions cap decline for the program was 7% through 2030, 1.8% for 2031 through 2042, and 2.6% for 2043 through 2050. The actual annual cap reduction rates will change in the current Cap-and-Invest Program Updates and Linkage Rulemaking to become somewhat less steep, as required by House Bill 1975 (2025).

### 1.3.2 Program flexibility pushes innovation

One of the hallmarks of this type of emissions-reduction program is that covered entities have flexibility to determine the most cost-effective way to comply. Each entity decides if it makes more sense, from a business perspective, to invest in technology or processes that will reduce their greenhouse gas emissions (thereby reducing their compliance obligation and the number of allowances they need to purchase) or to continue to pay for those greenhouse gas emissions by purchasing allowances from a diminishing supply. They also have the flexibility to adjust this strategy over time, purchasing allowances in early years before pivoting to invest in new technologies with lower greenhouse gas emissions as they are developed and become more affordable, for example.

This market-based approach – and the flexibility inherent in a cap-and-invest program like Washington’s – drive its effectiveness. By simultaneously putting a price tag on greenhouse gas emissions, while allowing businesses to develop custom-built decarbonization strategies over time, the Cap-and-Invest Program will move Washington closer to its climate goals and create increased demand for cleaner technologies and energy sources.

### 1.3.3 Stable prices support long-term progress

As noted above, Washington’s allowance budget has a steep initial rate of decline from 2023 until 2030. During these early years of the Program, allowance prices face upward pressure due to high demand. While the financial incentive to decarbonize is critical, the long-term success of the Program – and of Washington’s efforts to combat climate change – require that entities be able to obtain allowances at reasonable, relatively predictable prices. Washington’s market, especially until 2030, is tight, meaning that competition for allowances is significant. Such competition for allowances leads to price spikes as market participants compete to obtain allowances they must have for compliance. A program that allows for sudden and unmitigated price spikes or drops could negatively impact businesses’ decisions to proactively decarbonize due to concerns about fluctuating compliance costs.

To mitigate these potential concerns, the CCA includes several price stabilization mechanisms, described below, which are relevant to Ecology’s evaluation of the linkage criteria.

#### **Allowance Price Containment Reserve**

The Allowance Price Containment Reserve (APCR) is a pool of allowances that are set aside from each annual allowance budget and released into the market when increased demand at a quarterly auction pushes prices above a predetermined level. This mechanism is designed to ensure businesses can obtain allowances at fixed prices when market conditions push prices higher.

APCR auctions are only open to covered businesses and can only be used for compliance. They cannot be sold or traded among market participants to generate revenue.

Ecology was directed in the CCA to place at least 2% of total available allowances each year of the first compliance period (2023-2026) into the APCR.<sup>22</sup> To bolster market stability, Ecology elected to increase that amount, placing 5% of all allowances from 2023 through 2030 into the APCR on the first day of the Program in January 2023.<sup>23 24</sup> This proactive step has ensured that there are more allowances available in the APCR that can be purchased by covered entities when the allowance price at an auction exceeds set thresholds.

### **Price ceiling**

The second price stabilization mechanism is the price ceiling unit price (price ceiling). This mechanism is sometimes called a “soft ceiling.” Allowance prices at an auction can technically go above this price, but if that occurs covered entities would be allowed to participate in a special sale of allowances at the price ceiling (“price ceiling units”). Because market participants know that price ceiling units will be available to covered entities to purchase if regular auction prices go too high, the incentive for entities to bid above the ceiling is limited.

In House Bill 1975 (2025) the price ceiling was set at \$80.00 in 2026 and 2027 and increases by 5% plus the rate of inflation each year.<sup>25 26</sup> House Bill 1975 also allows Ecology to adjust the price ceiling through rulemaking, if needed to link.

### **Price Ceiling Units**

If any covered entities do not have sufficient allowances to cover their emissions for a compliance period, and there are no allowances left in the APCR, Ecology is required by law to sell as many price ceiling units (PCUs) as those entities require to meet their compliance obligations.<sup>27</sup> The first potential date for a price ceiling unit sale is October 2027, ahead of the Nov. 1, 2027 compliance deadline for the first compliance period.<sup>28</sup>

Like APCR allowances, PCUs are only available to covered entities and can only be used for compliance – they cannot be sold to other market participants to generate revenue.<sup>29</sup>

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<sup>22</sup> RCW 70A.65.150(2)

<sup>23</sup> WAC 173-446-370

<sup>24</sup> Through the Cap-and-Invest Program Updates and Linkage rulemaking, Ecology will identify additional allowances to place into the APCR according to the requirements in House Bill 1975 (2025), including allowances from the annual budgets for 2027 through 2040 to be placed into the APCR for offer during the second compliance period. <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-441-446-cap-and-invest-program-updates-and-linkage>.

<sup>25</sup> RCW 70A.65.160

<sup>26</sup> HB 1975: Climate Commitment Act—Modification. 2025-2026. (2025). <https://lawfilesexternal.wa.gov/biennium/2025-26/Pdf/Bills/Session%20Laws/House/1975-S2.SL.pdf?q=20260325095857>.

<sup>27</sup> RCW 70A.65.160, WAC 173-446-380, -385

<sup>28</sup> Washington Department of Ecology. 2025 Annual Allowance Price Containment Reserve and Price Ceiling Notice. <https://apps.ecology.wa.gov/publications/SummaryPages/2414089.html>.

<sup>29</sup> WAC 173-446-380

PCUs are not included in the annual allowance budgets, so each PCU sold allows greenhouse gas emissions in excess of the allowance budget for that year. However, as explained below, Ecology is directed to periodically evaluate the Program, including the annual allowance budgets, to ensure Washington is moving effectively toward its climate commitments. In addition, revenue from PCU sales must be used to achieve additional greenhouse gas reductions equal in metric tons to the number of PCUs sold, though the proposed source of the reductions has not yet been developed.

#### **1.3.4 Ensuring emissions reductions**

The CCA provides three important mechanisms to ensure that the Program’s primary function – to reduce greenhouse gas emissions in Washington – is achieved effectively: (1) periodic evaluations and adjustments, (2) an auction floor price, and (3) the Emissions Containment Reserve. Together, these mechanisms help ensure that the supply of allowances does not outstrip demand and push prices too low to provide an incentive for businesses to decarbonize.

##### **Periodic evaluations and adjustments**

The CCA gives Ecology broad authority to adjust the annual allowance budgets if needed to ensure that entities under the Program are contributing to meeting the statewide greenhouse gas emissions reductions of 45% by 2030, 70% by 2040, and 95% by 2050.

Ecology is required to complete periodic evaluations of the Program’s performance in reducing greenhouse gas emissions by December 31, 2027 (one year after the end of the first compliance period) and by December 31 of the year following the end of the third compliance period. If these evaluations show that “adjustments to the annual allowance budgets are necessary for covered entities to achieve their proportionate share of the 2030 and 2040 emission reduction limits ... [Ecology] shall adjust the annual allowance budgets accordingly.”<sup>30</sup> Similarly, Ecology is required to conduct two additional evaluations and adjust future allowance budgets accordingly to achieve the 2050 greenhouse gas emissions reduction limit.<sup>31</sup>

In addition to these periodic reviews, Ecology is authorized to make “additional adjustments to annual allowance budgets as necessary to ensure successful achievement of the proportionate emission reduction limits by covered entities.”<sup>32</sup> Any such adjustments to allowance budgets would only occur after Ecology determined and made public the metrics and process to initiate public consideration of an allowance adjustment.

##### **Price floor**

Each year, Ecology announces the annual floor price in accordance with the methodology laid out in the Climate Commitment Act program rule.<sup>33</sup> Unlike the price ceiling, the floor price is a “hard floor,” meaning that allowances can never be sold at auction for prices below the floor

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<sup>30</sup> RCW 70A.65.070(3)

<sup>31</sup> RCW 70A.65.070(3)

<sup>32</sup> RCW 70A.65.070(3)

<sup>33</sup> WAC 173-446-335

price. The floor price increases by 5% plus inflation every year, the same rate as the price ceiling.

### **Emissions Containment Reserve**

The CCA also includes an automated mechanism to limit allowance supply to ensure the Program functions as intended. If there are allowances left unsold after a quarterly auction, and those same allowances remain unsold for 24 consecutive months, they are automatically swept into a separate Emissions Containment Reserve (ECR) account.<sup>34 35</sup>

At this point in the Program, demand for allowances in the Washington market has been strong. In each of the first 12 quarterly auctions, all current vintage allowances offered at auction have been sold. However, should emissions reductions or other factors result in a greater supply of allowances in a quarterly auction than demand, putting allowances in the ECR effectively removes a portion of these allowances from the market, tightening supply and putting upward pressure on prices.

The ECR account also provides a pool of allowances that can be allocated to new or expanded covered entities. Ecology anticipates conducting the first ECR auction in fall of 2026 due to new covered entities joining the market.

#### **1.3.5 Funding clean air and communities**

The Cap-and-Invest Program incentivizes broad-based reductions in greenhouse gas emissions throughout the economy. But, just as importantly, the auction of allowances to Washington’s greenhouse gas emitters also raises a substantial amount of revenue. That revenue, by law, must be invested by the Legislature in initiatives and projects to reduce greenhouse gas emissions across Washington’s economy, with a particular focus on the transportation sector – the biggest source of emissions in the state. Auction revenue is also required to go to programs designed to help communities adapt to the impact of a rapidly changing climate, promote green energy, and address issues of air-related health inequity in communities that have historically borne more than their fair share of pollution.

In addition, the law requires that at least 35%, with a goal of 40%, of all auction revenue be spent on projects that provide “direct and meaningful benefits” to vulnerable populations within overburdened communities, and that an additional 10% be spent on projects supported by Tribes.<sup>36</sup> In the 2023-2025 biennium, nearly 60% (about \$850 million) of CCA investments

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<sup>34</sup> WAC 173-446-300(5)

<sup>35</sup> Another feature of the ECR is a trigger price. The ECR trigger price is suspended in Washington because California and Québec do not have an ECR trigger price, and it is a feature that needs to be aligned across linked jurisdictions. If an ECR trigger price were in effect for a given auction, it would function as a soft price floor by reducing the quantity of allowances available for sale at that auction. Bids submitted below the ECR trigger price are still allowed to be entered by bidders, but the auction system automatically withholds a number of allowances from the auction supply whenever the final clearing price would otherwise fall below the ECR trigger price. Withholding these allowances reduces supply until the effective clearing price rises to at least the ECR trigger price level. An ECR trigger price is not applicable to a linked market as a Washington specific policy.

<sup>36</sup> RCW 70A.65.230

benefited the most vulnerable communities in Washington to help them prepare for and cope with the impacts of climate change, exceeding the law's 35% requirement.<sup>37</sup>

### 1.3.6 Addressing environmental justice and health inequity

The CCA includes a number of policies designed to ensure that the benefits of the Cap-and-Invest Program are felt across the state, with a particular focus on environmental justice concerns.

#### Improving Air Quality in Overburdened Communities Initiative

The purpose of the Improving Air Quality in Overburdened Communities Initiative is to reduce criteria air pollution in communities highly impacted by air pollution.<sup>38</sup> Criteria air pollutants are six common air pollutants known to harm human health and the environment:<sup>39</sup>

- Carbon monoxide
- Lead
- Nitrogen dioxide
- Ozone
- Particle pollution
- Sulfur dioxide

In 2023, Ecology identified 16 communities in the state that are overburdened and highly impacted by criteria air pollution.<sup>40</sup> These areas were identified using air pollution data and socio-demographic indicators. Additionally, the communities were identified with a thorough process that included engagement with impacted communities, the Environmental Justice Council, and the public.<sup>41</sup> Ecology also identified seven Tribes that are impacted by elevated levels of criteria air pollutants. To date, Ecology has signed Memoranda of Understanding with four of those Tribes.

The ongoing initiative to reduce criteria air pollution in the 16 identified overburdened communities and with participating Tribes began in 2021. Efforts to implement this initiative in the period ahead include:

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<sup>37</sup> Washington Department of Ecology. 2025. Report to the Legislature: Climate Commitment Act Investments Fiscal Year 2025 <https://apps.ecology.wa.gov/publications/SummaryPages/2514107.html>.

<sup>38</sup> RCW 70A.65.020

<sup>39</sup> U.S. Environmental Protection Agency. Criteria Air Pollutants. <https://www.epa.gov/criteria-air-pollutants>.

<sup>40</sup> Washington Department of Ecology. Improving Air Quality in Overburdened Communities Highly Impacted by Air Pollution 2023 Report. 2023. <https://apps.ecology.wa.gov/publications/SummaryPages/2302115.html>.

<sup>41</sup> Washington Department of Ecology. 2023. Policy Statement Identification of Overburdened Communities Highly Impacted by Air Pollution (Section 3 of the Climate Commitment Act). <https://apps.ecology.wa.gov/publications/SummaryPages/2302016.html>.

- Reporting every two years about greenhouse gas emissions, criteria air pollution levels, and their health impacts in each community.
  - Ecology issued two environmental justice reports in 2023<sup>42</sup> and 2025<sup>43</sup> to provide information about criteria air pollutant concentrations and their health impacts, as well as greenhouse gas emissions in the identified communities.
- Conducting rulemaking to reduce criteria air pollution in identified communities. We anticipate that a formal proposal of the new rule, Chapter 173-448 WAC,<sup>44</sup> may be ready in 2026.
- Providing grants to organizations to develop and implement projects that reduce air pollution in communities overburdened and highly impacted by air pollution across the state, including participating Tribes. These grants provide funding to:
  - Engage people in their community to design projects that reduce criteria air pollution.
  - Implement locally-led projects that reduce criteria air pollution.
- Working to implement long-term clean air partnership agreements (MOUs) with Tribal governments, and coordinating strategies with overburdened communities to improve air quality in their communities.
- Expanding the air quality monitoring network in the identified communities.
  - Since 2023, Ecology has installed a total of 48 new air monitoring sites in these 16 communities. Each community now has at least one monitor or sensor.
- Every six years, re-evaluate indicators, use updated information, and a public engagement process to reidentify overburdened communities and Tribes highly impacted by air pollution.

### **Environmental Justice Assessments**

The Healthy Environment for All (HEAL) Act<sup>45</sup> also requires that Ecology and other state agencies complete an Environmental Justice Assessment before implementing significant agency actions. The CCA separately requires that Ecology complete an Environmental Justice Assessment before linking.<sup>46</sup> Ecology made public a draft of this linkage Environmental Justice

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<sup>42</sup> Washington Department of Ecology. Improving Air Quality in Overburdened Communities Highly Impacted by Air Pollution 2023 Report. 2023. <https://apps.ecology.wa.gov/publications/SummaryPages/2302115.html>.

<sup>43</sup> Washington Department of Ecology. Improving Air Quality in Overburdened Communities Highly Impacted by Air Pollution 2025 Report. 2025. <https://apps.ecology.wa.gov/publications/SummaryPages/2502037.html>.

<sup>44</sup> Washington Department of Ecology. 2025. Chapter 173-448 WAC. <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-448>.

<sup>45</sup> RCW 70A.02

<sup>46</sup> RCW 70A.65.060(3)

Assessment<sup>47</sup> and will complete the final Assessment before making a final decision on whether to link.

The purpose of an Environmental Justice Assessment is to “support the agency's consideration of overburdened communities and vulnerable populations when making decisions and to assist the agency with the equitable distribution of environmental benefits, the reduction of environmental harms, and the identification and reduction of environmental and health disparities.”<sup>48</sup>

### **Offset credit restrictions**

The Cap-and-Invest Program allows emitters to cover a portion of their emissions – up to 8% – with offset credits from qualified projects. These offset credits are “under the cap,” meaning that Ecology reduces the number of available allowances in the annual allowance budgets by the number of offset credits used for compliance in order to keep Washington on track to meet its 2030, 2040, and 2050 emissions limits.<sup>49</sup>

The CCA also gives Ecology authority to reduce the number of offset credits a specific company can use if it is determined, after receiving input from the Environmental Justice Council, that the company has or is likely to “contribute substantively to cumulative air pollution burden in an overburdened community” or violate any air pollution permits.<sup>50</sup>

### **Tribal Carbon Offset Assistance Grant program**

The Washington State Legislature appropriates \$5 million per biennium to fund a grant program to support federally recognized Tribes with interest in designing, assessing the feasibility of, or implementing offset projects on Tribal lands in the state.<sup>51</sup>

## **1.4 Linkage requirements in the CCA**

As noted above, the CCA requires that Ecology “shall seek to enter into linkage agreements with other jurisdictions,” and the Director of Ecology is authorized to negotiate and sign those agreements.<sup>52</sup> However, before entering into a linkage agreement, Ecology must:

- Conduct an Environmental Justice Assessment.
- Hold a public hearing and engage in a comment process to obtain input on the linkage agreement from “relevant stakeholders and other interested parties.”
- Find that linkage will achieve six “purposes” listed in RCW 70A.65.210(1).

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<sup>47</sup> Washington Department of Ecology. April 2026. Potential linkage of Cap-and-Invest carbon market with the joint California-Québec carbon market (Draft): An Environmental Justice Assessment (per RCW 70A.02.060). <https://apps.ecology.wa.gov/publications/summarypages/2614019.html>.

<sup>48</sup> RCW 70A.02.060

<sup>49</sup> RCW 70A.65.170(5)(a)

<sup>50</sup> RCW 70A.65.170(3)(d)

<sup>51</sup> RCW 70A.65.180(2)

<sup>52</sup> RCW 70A.65.210(1); RCW 70A.65.210(2)

- Determine “that the linking jurisdiction and the linkage agreement meet certain criteria.”<sup>53</sup>
- Ensure the linkage agreement includes the provisions listed in RCW 70A.65.210(2).

#### 1.4.1 Purposes that linkage must achieve

The “purposes” that a linkage agreement must achieve are set forth in RCW 70A.65.210(1):

- “(a) Allow for the mutual use and recognition of compliance instruments issued by Washington and other linked jurisdictions;
- (b) Broaden the greenhouse gas emission reduction opportunities to reduce the costs of compliance on covered entities and consumers;
- (c) Enable allowance auctions to be held jointly and provide for the use of a unified tracking system for compliance instruments;
- (d) Enhance market security;
- (e) Reduce program administration costs; and
- (f) Provide consistent requirements for covered entities whose operations span jurisdictional boundaries.”

#### 1.4.2 Criteria that must be met

Ecology must evaluate whether linkage “will provide for a more cost-effective means for covered entities to meet their compliance obligations in Washington while recognizing the special characteristics of the state’s economy, communities, and industries.”<sup>54</sup> Ecology must also “evaluate and make a finding regarding whether the aggregate number of unused allowances in a linked program would reduce the stringency of Washington's Program and the state's ability to achieve its greenhouse gas emissions reduction limits.”<sup>55</sup> As part of the evaluation, Ecology must include a “consideration of pre-2020 unused allowances.”<sup>56</sup> In addition, Ecology must ensure that:

- Any jurisdiction Washington links with “has provisions to ensure the distribution of benefits from the program to vulnerable populations and overburdened communities.”
- Linkage will “not yield net adverse impacts to either jurisdictions’ highly impacted communities or analogous communities in the aggregate, relative to the baseline level of emissions.”

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<sup>53</sup> RCW 70A.65.060(3); RCW 70A.65.210. When the CCA uses the term “criteria” it is referring to those listed in RCW 70A.65.210(3) and in RCW 70A.65.210(1) by reference. However, throughout this document, Ecology will use the term “criteria” more broadly to refer to all of the requirements under RCW 70A.65.060(3) and RCW 70A.65.210(1) and (3).

<sup>54</sup> RCW 70A.65.060(3)

<sup>55</sup> RCW 70A.65.210(3)

<sup>56</sup> RCW 70A.65.210(3)

- Linkage will not “adversely impact Washington's ability to achieve the emission reduction limits established in RCW 70A.45.020.”<sup>57</sup>

If Ecology determines that these criteria cannot be met, and therefore that full linkage should not occur, Ecology can consider alternatives such as a “linkage agreement with limitations”, including restrictions on how much of a Washington entity’s compliance obligation can be met using allowances from another jurisdiction.<sup>58</sup>

### 1.4.3 Provisions the linkage agreement must include

The CCA also lists provisions that a linkage agreement must include in RCW 70A.65.210(2):

- (a) Provisions relating to regular, periodic auctions, including requirements for eligibility for auction participation, the use of a single auction provider to facilitate joint auctions, publication of auction-related information, processes for auction participation, purchase limits by auction participant type, bidding processes, dates of auctions, and financial requirements;
- (b) Provisions related to holding limits to ensure no entities in any of the programs are disadvantaged relative to their counterparts in the other jurisdictions;
- (c) Other requirements, such as greenhouse gas reporting and verification, offset protocols, criteria and process, and supervision and enforcement, to prevent fraud, abuse, and market manipulation;
- (d) Common program registry, electronic auction platform, tracking systems for compliance instruments, and monitoring of compliance instruments;
- (e) Provisions to ensure coordinated administrative and technical support;
- (f) Provisions for public notice and participation; and
- (g) Provisions to collectively resolve differences, amend the agreements, and delink or otherwise withdraw from the agreements.

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<sup>57</sup> RCW 70A.65.210(3)

<sup>58</sup> RCW 70A.65.210(3). A fully linked program would have joint allowance auctions with a common allowance price across all the jurisdictions. Allowances could be used for compliance in any of the three jurisdictions without restrictions, regardless of which jurisdiction originally added them to the market. At this time, the structure of a potential partial linkage or a “linkage agreement with limitations” is uncertain.

## 2 Summary of Outreach and Engagement

Ecology has been conducting outreach and engagement on linkage with Tribes, the Environmental Justice Council, and the public since January 2023. This includes three public engagement periods on linkage and the linkage agreement, and additional engagement on the Environmental Justice Assessment, agency request legislation, and rulemaking.<sup>59</sup> Ecology sought input from Tribal leaders and staff, the Environmental Justice Council, the public, academics, and interested parties – including community-based organizations, environmental organizations, environmental justice organizations, and Cap-and-Invest market participants.

The linkage public engagement periods include:

**Linkage exploratory process:** From Jan. 31 through May 15, 2023, Ecology conducted a public outreach and engagement process to get input on whether linkage would be beneficial to Washington and on considerations to include in our preliminary analysis of the linkage criteria.

**Early engagement for linkage agreement:** From Nov. 21, 2024 through March 31, 2025, Ecology asked for comments to inform development of the draft linkage agreement with California and Québec.

**Draft Washington, California, Québec linkage agreement:** From March 3, 2026 through May 1, 2026, Ecology is asking for comments on the draft linkage agreement developed jointly with California and Québec. We'll consider comments as we complete our assessments, develop a final linkage agreement, and make a decision on whether to sign the agreement and link markets.

Ecology also held several community forums to gather input for the Environmental Justice Assessment.

Ecology used several strategies to engage with the public statewide, including the creation and maintenance of a dedicated webpage, blog updates, individual and small group meetings, online public meetings, online surveys and comment forms, email updates to the CCA mailing list, and direct outreach to individuals and groups.

During those public engagement opportunities, participants could share overall thoughts on linkage and specific recommendations related to the linkage criteria and linkage agreement. Commenters' responses varied in their degree of support for or concerns regarding linkage. Commenters offered recommendations for Ecology to consider related to the linkage criteria, the linkage agreement, rulemaking, and implementation of the Cap-and-Invest Program generally.

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<sup>59</sup> Engagement and comments related to the agency request legislation and rulemaking are not included in this summary. For information on agency request legislation engagement, review the Cap-and-Invest Program Agency Request Legislation Environmental Justice Assessment <https://apps.ecology.wa.gov/publications/SummaryPages/2414001.html>. For information on the rulemaking engagement, visit the Cap-and-Invest Program Updates and Rulemaking Webpage at <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-441-446-cap-and-invest-program-updates-and-linkage>.

Ecology staff reviewed all comments and resources provided and considered them for our analysis in Section 4 as well as in the Environmental Justice Assessment.<sup>60</sup> All comments received to date will continue to be considered during future phases, including finalizing the linkage agreement and the Ecology Director's decision on whether to link.

The summary of comments included in this section is intended to encapsulate input as it was shared through the consultation and public engagement processes and does not reflect Ecology's agreement or disagreement with any of the statements made.

## 2.1 Tribal government consultation

In January 2023, Ecology sent an initial letter to Tribal governments to invite Government-to-Government consultation on linkage. During all of the linkage engagement periods, Ecology has sent additional invitations for Government-to-Government consultation and invited Tribal leaders and staff to online Tribal forums. The Tribal forums provide an opportunity for Tribal staff to learn about linkage, ask questions, and share comments.

Ecology held the following Tribal forums:

- Linkage exploratory process: Feb. 9, 2023
- Early engagement for linkage agreement: Dec. 11, 2024
- Draft Washington, California, Québec linkage agreement: April 22, 2026 (upcoming)

In addition to holding Tribal forums focused primarily on linkage, Ecology also shared updates and answered questions at forums that included multiple CCA topics. Those include the following forums:

- Agency request legislation and linkage: Oct. 24, Nov. 2, and Dec. 11, 2023
- Linkage and other Cap-and-Invest topics: July 9, 2024
- Linkage, rulemaking, and other CCA topics: Oct. 9, 2024
- Overview of the CCA, Cap-and-Invest Program, and linkage: March 17, 2025
- Cap-and-Invest Program Updates and Linkage Rulemaking: April 29, July 17, and Aug. 5, 2025

The Governor's Office of Indian Affairs hosted monthly State-Tribal Roundtables for disseminating updates about climate policy issues to Tribes from 2023 to 2025. The roundtables were attended by Tribal Chairs, Tribal staff and contracted lobbyists, and Washington State agency staff. Ecology presented at the Washington State-Tribal Roundtables multiple times to provide updates about linkage and offer consultation or to schedule a meeting. Ecology also shared updates on linkage during Centennial Accord meetings.<sup>61</sup>

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<sup>60</sup> Washington Department of Ecology. April 2026. Potential linkage of Cap-and-Invest carbon market with the joint California-Québec carbon market (Draft): An Environmental Justice Assessment (per RCW 70A.02.060). <https://apps.ecology.wa.gov/publications/summarypages/2614019.html>.

<sup>61</sup> Washington State Governor's Office of Indian Affairs <https://goia.wa.gov/state-tribal-relations-centennial-accord/centennial-accord>.

To date, Ecology received comment letters from the Hoh Indian Tribe, Swinomish Indian Tribal Community, and Makah Indian Tribe. All three Tribes shared concerns about linkage and emphasized the importance of consultation with Tribes, the Environmental Justice Council, and overburdened communities. To address those concerns, Ecology continued outreach and engagement with Tribal governments, the Environmental Justice Council, and overburdened communities throughout the process. Ecology also received a concern related to potential impacts from linkage on the value and demand for offset projects on Tribal lands in Washington. Ecology is proposing changes to Cap-and-Invest Program regulations to address concerns that linking would lessen the demand for offset projects on Tribal lands in Washington.<sup>62</sup>

Comments and concerns shared by Tribes, Ecology’s analysis of potential impacts to Tribes, and actions Ecology has taken to address those concerns can be found in the Draft Environmental Justice Assessment.<sup>63</sup>

Government-to-Government consultations on linkage can be requested at any time by emailing [Tamara.Jones@ecy.wa.gov](mailto:Tamara.Jones@ecy.wa.gov).

## 2.2 Environmental Justice Council consultation

Ecology initiated communication about linkage with Environmental Justice Council (Council)<sup>64</sup> staff in January 2023. We first discussed the topic with the Climate Commitment Act Committee in April 2023 and the first consultation at a Council meeting was in July 2023. Since early 2023, Ecology has shared updates on linkage with Councilmembers and staff, offered to present at Environmental Justice Council and CCA Committee meetings, and to meet individually with Councilmembers to answer questions and learn about their comments and concerns. Ecology has also shared draft public engagement plans and materials with the Council for review and input.

Until mid-2025, the Council had a CCA Committee comprised of a subset of Councilmembers to discuss and make recommendations to the full Council on Climate Commitment Act topics. From the start of the linkage public engagement in early 2023 through mid-2025, Ecology staff joined over ten of those CCA Committee meetings to discuss linkage.

At the Council’s invitation, Ecology staff presented on linkage at the following Environmental Justice Council meetings: July 27, 2023, Sept. 28, 2023, and Jan. 29, 2026.

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<sup>62</sup> See Section 4.5.5 Offset projects for more information.

<sup>63</sup> Washington Department of Ecology. April 2026. Potential linkage of Cap-and-Invest carbon market with the joint California-Québec carbon market (Draft): An Environmental Justice Assessment (per RCW 70A.02.060). <https://apps.ecology.wa.gov/publications/summarypages/2614019.html>.

<sup>64</sup> The Environmental Justice Council consists of 16 members appointed by the Governor, with seats for community representatives, a youth community representative, environmental justice practitioners, Tribes, labor, and business. <https://waportal.org/partners/home/environmental-justice-council>.

In Oct. 2023, the Council sent Ecology a letter with recommendations related to linkage, including that “that Ecology not link Washington’s carbon market with California and Québec at this time based on these concerns to date.”<sup>65</sup> Their concerns related to the following themes:

- An overall negative effect on overburdened communities
- Negative impact to Washington’s ability to meet greenhouse gas emissions reduction commitments
- A decrease in allowance prices could prevent sufficiently funding investments in decarbonization and in overburdened communities
- A negative impact to the ability of Washington’s Air Quality Program to reduce criteria pollutants in overburdened communities

To address those concerns, the Council recommended:

- Facility specific emissions caps
- Prohibiting the use of unused allowances issued prior to Washington linking to California and Québec
- Limiting the use of offsets
- The establishment of expiry dates for stored allowances

Ecology has conducted legal and policy analysis on each recommendation and shared that analysis with the Council. Regarding facility specific greenhouse gas emissions caps, further limiting the use of offsets, and establishment of expiry dates for stored allowances, in light of the legal and practical constraints and limitations, Ecology has determined that they are not feasible approaches at this time.

A facility-specific greenhouse gas emissions cap policy would mandate that certain facilities reduce their annual greenhouse gas emissions at the same rate as the overall, statewide limit. Because certain processes, such as the combustion of fuels, may form and release both greenhouse gases and criteria air pollutants, the policy assumes that a reduction of greenhouse gas emissions at a particular facility would also improve local air quality. Ecology conducted an analysis of facility-specific greenhouse gas emissions caps in the context of Washington’s Cap-and-Invest Program. The analysis explores the policy from the perspective of greenhouse gas and criteria air pollutant emissions, carbon market impacts, and Washington’s existing laws and rules.<sup>66</sup> The key findings from that analysis are summarized in Section 4.5.1.

Washington, California, and Québec, all allow market participants to “store” allowances subject to applicable limits. In general, “unused” or “banked” allowances are allowances that market participants have in their accounts because they have not needed to use them for compliance.

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<sup>65</sup> Environmental Justice Council Letter to Ecology RE – Linkage Adopted on October 26, 2023.

<https://waportal.org/sites/default/files/2024-01/Environmental%20Justice%20Council%20Letter%20to%20Ecology%20RE%20-%20Linkage.pdf>

<sup>66</sup> Washington Department of Ecology. March 2026. “Facility-Specific Greenhouse Gas Emissions Caps Evaluation of this Policy and its Potential Application to Washington’s Cap-and-Invest Program.”

<https://apps.ecology.wa.gov/publications/SummaryPages/2614022.html>.

Entities may be saving the allowances to use for future compliance obligations or to sell on the secondary market to generate revenue. Ecology contracted Monitoring Analytics<sup>67</sup>, the company that serves as the Independent Market Monitor for Washington’s allowance auctions, to evaluate the potential impact of two of the Council’s recommendations: prohibiting the use of unused allowances issued prior to linkage and the establishment of expiry dates for stored allowances.<sup>68</sup> The results from that analysis are included in the Environmental Justice Assessment<sup>69</sup> and summarized in Section 4.3.1.

Ecology will continue to share information with the Council and offer to join discussions during Council meetings throughout the rest of the linkage process.

## 2.3 Public engagement

During each of the linkage public engagement periods listed above, Ecology provided multiple methods for the public to submit feedback, including online public meetings, online surveys and comment forms, invitations to provide comments through email, mail, and voicemail, and individual and small group meetings with environmental, environmental justice and equity, community-based organizations, market participants, and industry associations. We held the following public meetings:

- Linkage exploratory process: March 16, March 29, and April 18, 2023
- Early engagement for linkage agreement: Feb. 27 and March 5, 2025
- Community forums on environmental justice issues: July 22, 2024 and Aug. 13, 2025
- Draft Washington, California, Québec linkage agreement: April 22 and April 27, 2026 (upcoming)

During those public engagement opportunities, participants could share overall thoughts on linkage or specific recommendations related to the linkage criteria.

Cascadia Consulting Group provided support during the linkage exploratory phase public engagement period and developed a summary of the comments, available in Appendix C: Summary of Public Comments Received in Spring 2023.

Comments received during the early engagement on the linkage agreement are included in Appendix D: Summary of Public Comments Received October 2023 – December 2025.

The Environmental Justice Assessment includes summaries of comments from community-based organizations, environmental organizations, and community members.<sup>70</sup>

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<sup>67</sup> Marketing Analytics reviews and evaluates auctions and reserve sales, tracks and analyzes holding and trading of compliance instruments, reviews derivatives markets, and assists in monitoring market participants.

<sup>68</sup> See Appendix G: Memo on Treatment of CA/QC Allowances in a CA/QC/WA Linked Market

<sup>69</sup> Washington Department of Ecology. April 2026. Potential linkage of Cap-and-Invest carbon market with the joint California-Québec carbon market (Draft): An Environmental Justice Assessment (per RCW 70A.02.060). <https://apps.ecology.wa.gov/publications/summarypages/2614019.html>.

<sup>70</sup> Washington Department of Ecology. April 2026. Potential linkage of Cap-and-Invest carbon market with the joint California-Québec carbon market (Draft): An Environmental Justice Assessment (per RCW 70A.02.060). <https://apps.ecology.wa.gov/publications/summarypages/2614019.html>.

Some comments did not directly relate to linkage and instead related to other aspects of the CCA. Those are not included in these summaries.

Commenters' responses varied in their degree of support for or concerns regarding linkage. Commenters offered many recommendations for Ecology to consider in evaluating the linkage criteria and deciding whether to link.

Ecology staff reviewed all comments and resources provided and considered them when developing this report. While we are not responding individually to each comment, they aided in our analysis of the linkage criteria in Section 4. The comments will additionally be considered during future phases, including the Director's decision on whether to link.

The full sets of comments received throughout the past engagement periods are available for review.<sup>71</sup>

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<sup>71</sup> Links to comments received are included in Appendix C and D.

### 3 Market Modeling and Analysis

In October 2023, Ecology issued the *Cap-and-Invest Linkage Criteria: Preliminary Analysis Report*<sup>72</sup> and made a decision to pursue linkage with California and Québec. This 2026 report builds on the analysis in the 2023 report and includes new research and modeling that Ecology commissioned from Western Washington University and University of California to support evaluation of the linkage criteria. This report also contains information collected through public comment processes and additional research and analysis by Ecology staff.

The University of California team built a model of Washington’s standalone (unlinked) Cap-and-Invest carbon market and a linked Washington-California-Québec carbon market to estimate allowance prices and greenhouse gas emissions. The results of that work are summarized below in Section 3.2 and detailed in Appendix F: Market Modeling Methods and Results. In Section 3.2.4, we also provide a brief comparison of the University of California’s work and previous models employed by Ecology in this section.

Unavoidable uncertainties from all of these modeling methods mean that modeled outcomes are heavily assumption-dependent and therefore represent only part of the range of possible market and greenhouse gas emissions outcomes. For example, models are not able to capture unpredictable macroeconomic factors like pandemics or recessions. And as modeled timeframes extend into the future, assumptions compound, making the range of possible outcomes even more uncertain. The University of California model developed for Ecology serves as a valuable analytical tool, but models have limitations and may not accurately predict the future. This is especially true for outcomes predicted over a longer time horizon. The modeling results included in this report are for the purpose of understanding potential impacts of linkage and do not constitute a forecast of a standalone or linked market by Ecology.

Section 3.3 builds upon the modeling discussion, providing additional analysis based on researched and documented market and greenhouse gas reduction concepts to further understand the potential impacts of linkage. Western Washington University conducted a review of academic literature and provided research and analysis of the linkage criteria described in Section 1.4.2. Their research and analysis is incorporated throughout this section and Section 4 and a summary report is included as Appendix E: Washington Cap-and-Invest Linkage Criteria Qualitative Analysis from Western Washington University.

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<sup>72</sup> Washington Department of Ecology. Cap-and-Invest Linkage Criteria: Preliminary Analysis Report. 2023. <https://apps.ecology.wa.gov/publications/summarypages/2314005.html>.

Unrelated to linkage, Québec and California are currently reviewing their emissions trading programs and proposing changes to their respective program regulations.<sup>73 74 75</sup> This analysis factors in the regulatory updates proposed by those jurisdictions as of March 1, 2026.

### 3.1 Relative market size

The relative size of Washington’s Cap-and-Invest market compared to the California-Québec market is a key factor when predicting the impacts of linkage. Based on the allowance budgets for 2023 through 2026, the joint California-Québec market is over six times the size of Washington’s market (see Table 1). The significant difference in market size is anticipated to cause allowance prices in a Washington-California-Québec linked market to be largely influenced by the price in the California-Québec joint market at the time of linkage.

*Table 1: Comparison of allowance budgets<sup>76</sup>*

Emissions year	Washington	California	Québec
2023	63,288,565	294,100,000	52,790,000
2024	58,524,909	280,700,000	51,550,000
2025	53,761,254	267,400,000	50,310,000
2026	48,997,598	254,000,000	49,080,000

<sup>73</sup> California’s and Québec’s current respective program reviews are not related to linkage. California and Québec would need to go through their own evaluation processes to determine whether to link with Washington. If all three jurisdictions decide to link, California and Québec would need to amend their respective regulations to implement any potential linkage agreement.

<sup>74</sup> Québec Ministère de l’Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parc. 2026. “Assessment of the operating parameters of the Cap-and-Trade System.” <https://www.environnement.gouv.qc.ca/changementsclimatiques/evaluation-parametres-fonctionnement-spede-en.htm>.

<sup>75</sup> California Air Resources Board. 2026. “Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market- Based Compliance Mechanisms Regulation.” <https://ww2.arb.ca.gov/rulemaking/2026/cap-and-invest2026>.

<sup>76</sup> Sources: Washington: [WAC 173-446-210](#), Table 210-1; California: Code of Regulation [§ 95841](#); Québec: [O.C. 1126-2017](#). The Washington budget does not account for potential changes resulting from HB 1975 (2025).

## 3.2 Modeling of a Washington standalone and linked market by the University of California

Ecology contracted with the University of California to provide economic modeling and analysis to support evaluation of the linkage criteria. This section includes a brief overview of the model design and model results. Additional modeling information is available in Appendix F: Market Modeling Methods and Results.

### 3.2.1 Model design

At a high level, the model predicts the price of allowances by comparing allowance demand with allowance supply. To estimate allowance demand, the University of California team built a statistical model that forecasts a range of potential greenhouse gas emissions through 2030. Ecology chose to model through 2030 to analyze potential impacts from linkage through the next compliance period and on the upcoming statutory emissions reduction deadline – to reduce emissions to 45% below 1990 levels by 2030. Because all three jurisdictions are in the process of revising their program regulations, including setting future allowance budgets, Ecology determined that modeling a linked market scenario beyond 2030 would have too much uncertainty to provide reliable insights.

The model forecasts business-as-usual (BAU) greenhouse gas emissions for sectors covered by the Program. BAU emissions represent emissions in a future where emissions continue on their current trajectory, without influence from the Cap-and-Invest Program or other climate policies.<sup>77</sup>

Then, the model reduces the forecasted BAU emissions to account for emissions reductions driven by climate policies other than the Cap-and-Invest Program. These climate policies include the Clean Energy Transformation Act (electricity policy) and Clean Fuel Standard (fuel policy), among others.

Finally, the model looks at how many and what type of allowances must be acquired to cover the remaining emissions (BAU minus reductions from other climate policies). If “standard” allowances (allowances sold at quarterly auctions, distributed through no-cost allocation<sup>78</sup>, and banked allowances<sup>79</sup>) are enough to meet the demand, then the modeled price is estimated at the price floor. If allowances from cost containment (APCR or price ceiling units) are needed, then the modeled price is estimated at or near the relevant step of cost containment. In addition, some further emissions reductions are driven by the Cap-and-Invest carbon price.<sup>80</sup>

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<sup>77</sup> The model leverages state-specific data on emissions in relevant sectors, energy data, and other inputs from 1990-2023. See Appendix F: Market modeling methods and results for more information on model design.

<sup>78</sup> Under the Climate Commitment Act, electric utilities, natural gas utilities, and emissions-intensive, trade exposed industries receive allowances at no cost. Each of these groups receives differing amounts of no-cost allowances and is subject to different requirements on how they use their no-cost allowances.

<sup>79</sup> “Banked” or “unused” allowances are allowances that market participants have in their accounts because they have not needed to use them for compliance.

<sup>80</sup> Specifically, the model incorporates emissions reductions from Cap-and-Invest due to allowance price responsive reductions based on elasticities from academic literature. These can be thought of as extra reductions in emissions that are applied when the modeled price reaches each cost containment step.

The model utilizes the same methods to estimate supply and demand for both the Washington standalone market and the linked market scenario.

There are inherent uncertainties and limitations to modeling carbon markets. For example, the model developed by the University of California takes a conservative approach when predicting technology adoption (e.g. renewable energy, zero-emissions vehicles). It does this by including confidence parameters that add uncertainty that existing complementary climate policy targets will be achieved (see Appendix F Table 2). Finally, because the model is primarily based on past emissions data, it cannot account for transformational technologies that would change the pace of decarbonization.

Further, the model does not account for greenhouse gas reductions from the investments funded by the state of Washington using Cap-and-Invest auction proceeds. Direct investment of auction revenue into energy efficiency programs, clean technologies, and transformational infrastructure can lead to considerable greenhouse gas reductions in addition to those achieved by the influence of the Program's carbon price.

For example, in January 2024 New York presented a preliminary analysis overview as part of the process of considering implementing a cap-and-invest program.<sup>81</sup> The analysis modeled investments of auction revenue focused on boosting residential and commercial heat pumps and electric vehicles in New York State. It found that those investments drive a 10% reduction in emissions relative to the reference case by 2030 and a 14% reduction in emissions by 2035.

The model design is further discussed in Appendix F: Market Modeling Methods and Results.

### 3.2.2 Allowance price estimates

As discussed in the model design section, the model predicts that prices are likely to converge at the fixed price levels where additional allowances become available in the Program. Therefore, the predicted prices align with the type of allowances available to meet the demand for compliance — standard allowances available at the price floor or those at set cost containment prices:

- **Modeled prices at the price floor:** If, in a given year, business-as-usual emissions demand is met by climate policies' emissions reductions and standard allowances (banked, auctioned, and allocated at no cost), then the model predicts allowance prices at the price floor.
- **Modeled prices at an APCR tier or price ceiling:** If demand for allowances remains after accounting for emissions reductions from climate policies and standard allowances, then APCR allowances and price ceiling units must be used, and the model predicts prices at or near the APCR (if only APCR allowances are used) or price ceiling (if price ceiling units are also used).

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<sup>81</sup> New York State. Clean Air Initiative Meetings and Events. <https://capandinvest.ny.gov/Meetings-and-Events>

Historically, the California-Québec market has had more than sufficient standard allowances available for compliance, so banked allowances are available in a linked scenario. In the linked market scenario, which includes model results through 2030, the model estimates that allowance prices would be significantly lower compared to the standalone scenario.

In contrast, in the standalone Washington-only scenario, the model predicts prices near the price ceiling from the start of the modeled time period. Figure 2 shows year-by-year allowance prices for the standalone (green) and linked (blue) scenarios.

There are inherent uncertainties and limitations associated with modeling carbon markets, which are not literal predictions of future outcomes. As noted above, this model takes a conservative approach and may overestimate future greenhouse gas emissions because it does not account for emission reductions from CCA investments, has variable expectations of reductions from complementary policies, and does not predict new technology innovations.

In the standalone scenario, the model reflects changes to the price ceiling from House Bill (HB) 1975 (2025),<sup>82</sup> which lowered the price ceiling in Washington in 2026 and 2027 to \$80 with steady increases from that level in the following years. HB 1975 intended to ease market pressure with a number of near-term actions, including temporarily reducing the price ceiling. Therefore, the model for a standalone market has a lower price ceiling than the one that was originally established during the first two years of the Cap-and-Invest Program.

Though HB 1975 set the price ceiling in statute, it also gave Ecology administrative authority to change the price ceiling to match that of a linked jurisdiction through rulemaking. Ecology determined with its jurisdictional partners that consistency across the linked jurisdictions on cost containment provisions such as the price ceiling would be essential for a linked market. In the linked scenario, the model uses the California price ceiling, which is aligned with Washington's price ceiling prior to HB 1975.

A price ceiling plays a critical role in shaping decarbonization incentives. If the ceiling is set too low, it weakens the carbon price signal and reduces economic pressure to invest in cost-efficient emissions-reducing technologies. If the ceiling is set too high, it may not provide sufficient cost containment and may result in unacceptably high compliance costs.

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<sup>82</sup> HB 1975: Climate Commitment Act—Modification. 2025-2026. (2025).  
<https://lawfilesexternal.wa.gov/biennium/2025-26/Pdf/Bills/Session%20Laws/House/1975-S2.SL.pdf?q=20260325095857>.

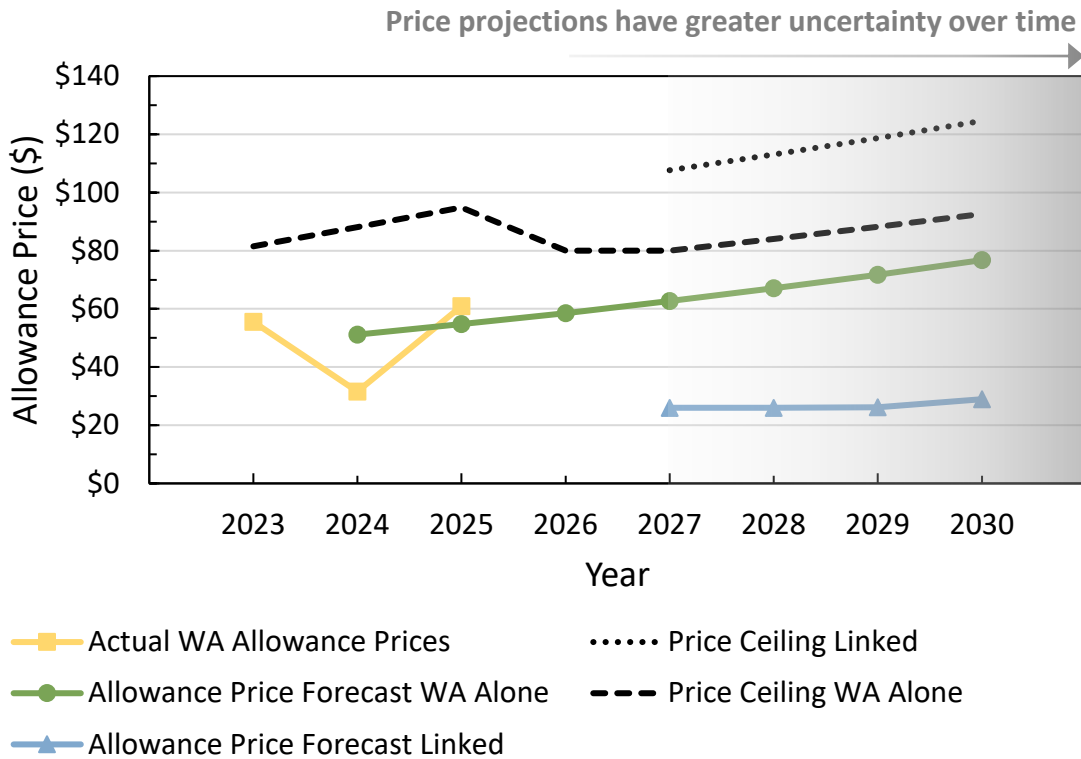


Figure 2: Modeled price trajectories for a Washington standalone market and a linked market<sup>83</sup>

### 3.2.3 Greenhouse gas emissions results

Figure 3 presents the difference in cumulative greenhouse gas emissions between the linked and standalone markets, separately for Washington and for the combined emissions from the linked jurisdictions. The modeling estimates comparable greenhouse gas emissions as a result of linkage for Washington and the overall linked market.

The modeling estimates that over a four-year period, the greenhouse gas emissions in Washington in the linked scenario are 2.43% higher than in the standalone scenario. California and Québec have slightly lower emissions in the linked scenario, such that across the three linked jurisdictions, the model estimates only a 0.46% increase in emissions in the linked scenario.

Ecology expects that linking will lead to greater total emissions reductions over the long term across the linked jurisdictions. Another factor the model does not account for is the impact of uncertainty on the market. Review of economic literature and conversations with businesses covered by the Program have emphasized the importance of regulatory certainty for businesses making decisions about large capital investments, such as those required for decarbonization, which we discuss in Section 3.3. Therefore, we expect that real world results will differ from these model estimates.

<sup>83</sup> Prices are in 2025 dollars.

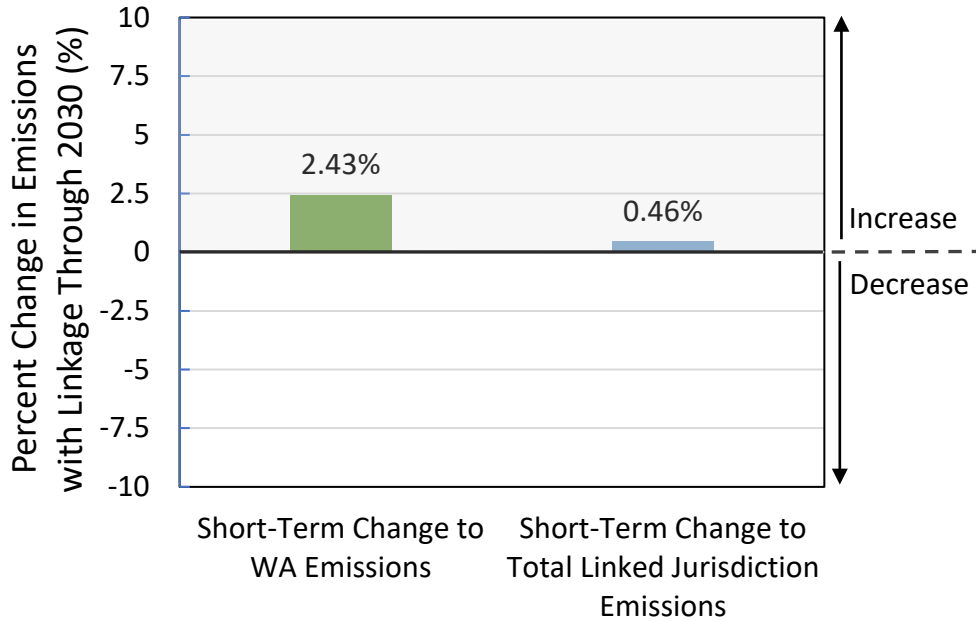


Figure 3: Percentage change of cumulative emissions (2027-2030) between linked and standalone scenarios for Washington and the linked jurisdictions

### 3.2.4 How current University of California modeling differs from past model employed by Ecology

In 2022, as part of the CCA Program rulemaking, Ecology published a report containing market modeling and a forecasting analysis of the proposed Program conducted by Vivid Economics (Vivid).<sup>84</sup>

Vivid’s approach has several differences from the University of California’s. The biggest difference is that Vivid Economics’ model picks the lowest-cost options for compliance based on “perfectly-known” options for emissions reductions, i.e., the model can compare exact emission reduction costs per ton at a detailed level.<sup>85</sup> In contrast, the University of California modeling forecasts business as usual emissions growth based on past economic trends and then accounts for emissions reductions implied by policy mandates such as the Clean Energy Transformation Act (CETA) and Clean Fuel Standard (CFS). The University of California model does not predict the exact technologies that will be adopted to deliver those emissions reductions. While Vivid’s agent-based model enabled estimates of emissions on a subsector-level, forecasted results are

<sup>84</sup> Vivid Economics. 2022. Summary of market modeling and analysis of the proposed Cap and Invest Program. Publication 22-02-038. Department of Ecology. <https://apps.ecology.wa.gov/publications/SummaryPages/2202038.html>.

<sup>85</sup> The Vivid model has “perfect foresight” in that it knows compliance costs exactly for each potential carbon reduction option in each emitting sector. However, these compliance costs that the model “knows” are based on highly specific assumptions made in the model.

dependent on assumptions related to technology adoption and market behavior. As such, the Vivid report included multiple sensitivity analyses.<sup>86</sup>

Figure 4 shows the forecasted allowance prices and emissions from the “frontloading unlinked”<sup>87</sup> scenario, which most closely corresponds to the Washington standalone market scenario from the University of California.

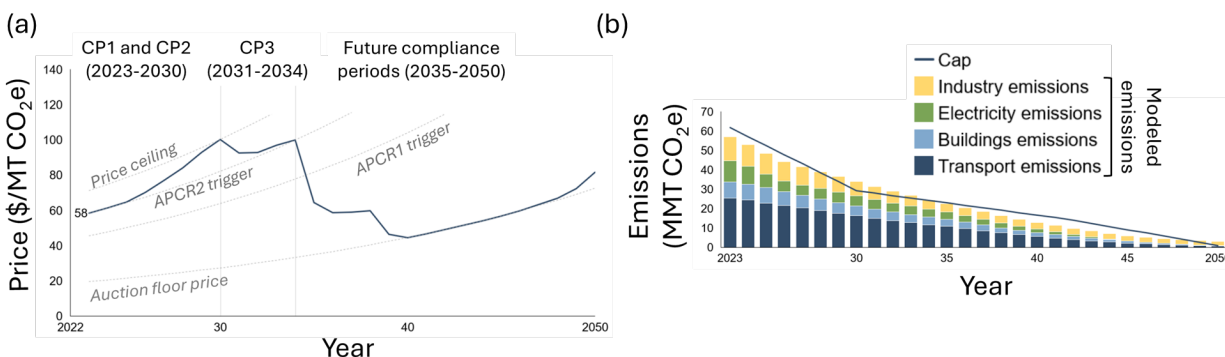


Figure 4: Results from Vivid Economics “frontloading” modeling scenario for 2023 to 2050: (a) allowance prices over different compliance periods (CPs) and (b) emissions. This scenario assumes frontloading of allowances from the allowance price containment reserve (APCR).

### 3.3 Research and analysis

Overall, economic theory suggests that markets can achieve emissions reductions more efficiently and at lower cost when they are larger, including when they are expanded through linkage.<sup>88 89</sup> This is because different sectors, subsectors, and individual entities face different costs and opportunities for decarbonizing. Expanding the number of entities in a carbon market allows for emissions reductions to occur where they can be achieved at the lowest cost, lowering allowance prices for Washington covered entities as compared to a smaller standalone Washington market.

<sup>86</sup> Vivid Economics. 2022. “Table 2: List of key model inputs and assumptions.” Summary of market modeling and analysis of the proposed Cap and Invest Program. Publication 22-02-038. Department of Ecology. <https://apps.ecology.wa.gov/publications/SummaryPages/2202038.html>.

<sup>87</sup> Frontloading in this scenario refers to Ecology pulling forward 5% of allowances from later allowance budgets into the APCR, so that they are available for cost containment in the earlier years of the Program.

<sup>88</sup> Wang, Feng, Beibei Liu, and Bing Zhang. 2020. “Exploring the Impacts of Carbon Market Linkage on Sectoral Competitiveness: A Case Study Of Beijing–Tianjin–Hebei Region Based on the CEECPA Model.” *Climate Change Economics* 11 (03): 2041005. <https://doi.org/10.1142/S2010007820410055>.

<sup>89</sup> Zhang, Xiliang, Andreas Löschel, Joanna Lewis, Da Zhang, and Jinyue Yan. 2020. “Emissions Trading Systems for Global Low Carbon Energy and Economic Transformation.” *Applied Energy* 279 (December): 115858. <https://doi.org/10.1016/j.apenergy.2020.115858>.

### 3.3.1 Market stability

Research has shown that larger markets are more liquid, reduce unpredictable price movements (price volatility), and result in lower-cost emissions reductions.<sup>90 91 92</sup> Washington’s Cap-and-Invest Program has operated since 2023 and for most of that time—due to being a smaller market subject to significant price discovery and shifting market dynamics—allowance prices have been more volatile than in the California-Québec market (Figure 5).<sup>93</sup> The linked California-Québec market is roughly six times the size of Washington’s standalone market. We expect, in a larger, more liquid linked market with a greater number of participants, allowance prices would change more predictably.<sup>94</sup>

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<sup>90</sup> Dellink, R., J. Stéphanie, J. Chateau, R. Duval. 2014. Towards global carbon pricing: Direct and indirect linking of carbon markets. *OECD Journal: Economic Studies*, 2013(1). [http://dx.doi.org/10.1787/eco\\_studies-2013-5k421kk9j3vb](http://dx.doi.org/10.1787/eco_studies-2013-5k421kk9j3vb); Woerman, M. 2023. Linking carbon markets with different initial conditions. *Journal of Environmental Economics and Management*, 119: 102820. <https://doi.org/10.1016/j.jeem.2023.102820>; Burtraw, D., K. Palmer, C. Munnings, et al. 2023. Linking by degrees: Incremental alignment of cap-and-trade markets. *Resources for the Future*. <https://media.rff.org/documents/RFF-DP-13-04.pdf>.

<sup>91</sup> Roy, N., Russo, S., & Burtraw, D. (2025). Considerations for Washington’s Linkage Negotiations with California and Québec Considerations for Washington’s Linkage Negotiations with California and Québec. [https://media.rff.org/documents/Report\\_25-05\\_K1qt92.pdf](https://media.rff.org/documents/Report_25-05_K1qt92.pdf).

<sup>92</sup> Rutherford, A. P. (2014). Linking emissions trading schemes: Lessons from the EU-Swiss ETs. *Carbon & Climate Law Review: CCLR*, 8(4), 282-290. <https://www.proquest.com/scholarly-journals/linking-emissions-trading-schemes-lessons-eu/docview/1673821889/se-2>.

<sup>93</sup> The settlement prices for current vintage allowances in Washington’s market in 2025 were \$50.00, \$58.51, \$64.30, \$70.86 (average of \$60.92). The settlement prices in the California-Quebec market in 2025 were \$29.27, \$25.87, \$28.76, \$28.32 (average of \$28.06).

Information from: Washington Department of Ecology. 2026. Cap-and-invest auctions and markets. <https://ecology.wa.gov/air-climate/climate-commitment-act/cap-and-invest/auctions-and-market>; CARB. 2026. Summary of California-Québec Joint Auction Settlement Prices and Results. [https://ww2.arb.ca.gov/sites/default/files/2020-08/results\\_summary.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-08/results_summary.pdf).

<sup>94</sup> Zhang, Xiliang, Andreas Löschel, Joanna Lewis, Da Zhang, and Jinyue Yan. 2020. “Emissions Trading Systems for Global Low Carbon Energy and Economic Transformation.” *Applied Energy* 279 (December): 115858. <https://doi.org/10.1016/j.apenergy.2020.115858>.

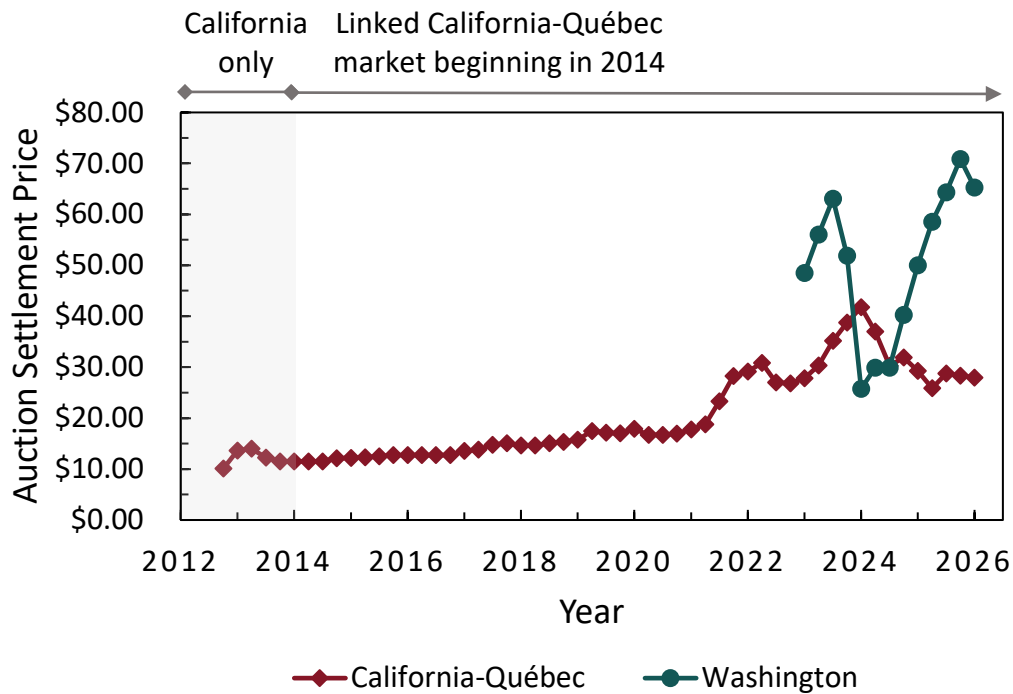


Figure 5: Auction settlement prices in the California-Québec and Washington markets

Joining the larger California-Québec market may also make Washington’s Program more resilient to unexpected, state-specific economic events. In a comparatively smaller market such as Washington’s, natural disasters, business closures, or new industries entering the state all could have an outsized impact on allowance prices and create volatility. In a much larger and more liquid market, spanning multiple geographies and political jurisdictions, the impact of these localized factors will be lessened, making the combined market more stable and allowance prices more predictable.

### 3.3.2 Program durability

Ensuring that Washington’s climate policies are durable over the long term is critical for the state to achieve its greenhouse gas reduction commitments. The durability and stability of the Cap-and-Invest Program is especially important because this Program has a much broader environmental and economic impact than any of Washington’s complementary policies that are focused only on one sector of the economy.

High and volatile allowance prices could discourage business growth and investments in emissions reductions, and lead businesses to focus instead solely on purchasing allowances as a compliance strategy. This could potentially have unforeseen impacts, such as incentivizing curtailment or closure of facilities and moving production to jurisdictions with less stringent climate policies, a phenomenon known as emissions leakage.<sup>95</sup> As a result, uncertainty as to the

<sup>95</sup> Rissman, J. (2024). *Zero-Carbon Industry: Transformative Technologies and Policies to Achieve Sustainable Prosperity*. Columbia University Press. <http://www.jstor.org/stable/10.7312/riss20420>.

Program’s future could have a significant negative impact upon the state’s economy and climate goals.<sup>96</sup>

If the Program becomes seen as a driver of leakage, its public support could erode and its longevity could be threatened, risking the curtailment or repeal of the state’s most far-reaching climate policy. This risk is especially high during the early years of the Program, when the market is still new and before the benefits of revenue investments become widely evident.

Erosion of public support for the Program can itself lead to market instability, as happened in 2024, when a ballot initiative was introduced to repeal the Program. Although Initiative 2117<sup>97</sup> failed at the ballot box in November 2024, there was significant market instability throughout that year while it was being considered.

The Cap-and-Invest Program generates substantial revenue for climate investments, which will further reduce emissions and address other air quality issues impacting Washington communities. The loss of the Program, therefore, would also mean the loss of billions of dollars over the next 24 years that would otherwise increase access to clean transportation, build resilience to climate change, and advance environmental justice and health equity across the state.

### 3.3.3 Business investments and innovation

In an unlinked Washington market, greater uncertainty in allowance prices may result in businesses deciding to hold back on early decarbonization investments to preserve working capital for potential allowance purchases. Literature shows that high uncertainty, such as from unpredictable allowance prices or the perception that regulations may change, increases the likelihood that covered entities employ “wait and see” strategies, rather than invest early in technology and equipment upgrades.<sup>98 99</sup> For example, a study on energy sector investment decision-making found that carbon price uncertainty, combined with risk aversion, increases the delay in transitioning to low-emission electricity production.<sup>100</sup>

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<sup>96</sup> Sitarz, J., Pahle, M., Osorio, S. *et al.* Policy credibility is a key component for an effective and efficient EU Emissions Trading System. *Nat Energy* 9, 637–638 (2024). <https://www.nature.com/articles/s41560-024-01545-3>; Sitarz, J., Pahle, M., Osorio, S. *et al.* EU carbon prices signal high policy credibility and farsighted actors. *Nat Energy* 9, 691–702 (2024). <https://doi.org/10.1038/s41560-024-01505-x>.

<sup>97</sup> Initiative 2117. 2024. Washington State Legislature. <https://lawfilesextra.wa.gov/biennium/2023-24/Pdf/Initiatives/Initiatives/INITIATIVE%202117.pdf?q=20260311105258>.

<sup>98</sup> Chen, Z., *et al.* (2025). The impact of emissions trading systems on technological innovation for climate change mitigation: a systematic review. *Climate Policy*, 25(8), 1293–1309. <https://doi.org/10.1080/14693062.2024.2443464>.

<sup>99</sup> Jan Venmans, F. 2016. The effect of allocation above emissions and price uncertainty on abatement investments under the EU ETS, *Journal of Cleaner Production*, Volume 126, 2016, Pages 595-606, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2016.02.108>.

<sup>100</sup> Yang, J., S. Fuss, D. Johansson, *et al.* 2023. Investment dynamics in the energy sector under carbon price uncertainty and risk aversion. *Energy and Climate Change*, 4:100110. <https://doi.org/10.1016/j.egycc.2023.100110>.

As discussed above, joining the larger California-Québec market would likely have a stabilizing impact on allowance prices. Increased market stability may foster greater investment in decarbonization by Washington businesses, as predictable price changes allow businesses to plan decarbonization projects and operational changes with more confidence.<sup>101 102 103</sup>

In addition, in a linked market, market policies and allowance prices in all jurisdictions would be the same, meaning that businesses with compliance obligations in multiple jurisdictions (which include some of Washington’s biggest emitters) would have a clearer idea of future compliance costs across their operations.

Consistent with literature, Ecology engagement with Washington businesses confirms that financially costly investments in new equipment, operational overhauls, and system upgrades may be more readily pursued by businesses in Washington when they can plan their compliance strategies with greater confidence. Industrial facilities designated as “emissions-intensive, trade-exposed” (EITE) in Washington have previously expressed that decarbonization projects involve multi-year planning and implementation timelines and that uncertainty surrounding allowance prices in Washington has made it difficult and risky to plan for investments.<sup>104</sup> Covered entities in Washington have encouraged continued coordination surrounding linkage with the California-Québec market because of the positive impacts that long-term certainty and stability can have on low-carbon investment.<sup>105</sup>

In addition to supporting business investments in commercially ready greenhouse gas-reducing projects, literature demonstrates that emissions trading systems can lead to new low-carbon technological innovation by expanding market demand for cleaner technologies and energy

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<sup>101</sup> Karmaker, et al. 2025 Innovation under Cap-and-Trade: How emission trading systems propel decarbonization. Next Energy, Volume 7, 2025, 100220, ISSN 2949-821X, <https://doi.org/10.1016/j.nxener.2024.100220>.

<sup>102</sup> Holtsmark, K. and K. Midttomme. 2021. The dynamics of linking permit markets. *Journal of Public Economics*, 198(2021): 104406. <https://www.sciencedirect.com/science/article/abs/pii/S0047272721000426>.

<sup>103</sup> Martinsson, G., et. al. 2024 “The Effect of Carbon Pricing on Firm Emissions: Evidence from the Swedish CO2 Tax”. *Rev. of Financial Studies*. 37 (6). <https://doi.org/10.1093/rfs/hhad097>; Bartram, S. et. al. “Real Effects of Climate Policy: Financial Constrains and Spillovers”. *J. Financial Economics*. 143 (2), 2022.

<https://www.sciencedirect.com/science/article/abs/pii/S0304405X21002853>; Pan, X. and Yu, L. “Do China’s Pilot Emissions Trading Schemes Lead to Domestic Carbon Leakage? Perspective from the Firm Relocation”. *Energy Economics*. 132, 2024. <https://www.sciencedirect.com/science/article/abs/pii/S0140988324000422>.

<sup>104</sup> Washington State Department of Ecology. January 2026. Report to the Legislature on EITE allowance allocation 2035 - 2050 Leakage mitigation policies for facilities classified as Emissions-Intensive, Trade Exposed Industries under the Cap-and-Invest Program. Page 108.

<https://apps.ecology.wa.gov/publications/summarypages/2514113.html>.

<sup>105</sup> Washington State Department of Ecology. January 2026. Report to the Legislature on EITE allowance allocation 2035 - 2050 Leakage mitigation policies for facilities classified as Emissions-Intensive, Trade Exposed Industries under the Cap-and-Invest Program. Page 163.

<https://apps.ecology.wa.gov/publications/summarypages/2514113.html>.

sources.<sup>106 107 108</sup> However, as with other investments, uncertainty surrounding economic durability and longevity of these policies can disincentivize investment in low-carbon technologies.<sup>109 110 111</sup>

Strong markets for low-carbon technologies may spur adoption even by entities not regulated under the Program, who see an opportunity for cost savings or reputational benefit, and could lead to an economies-of-scale effect. Within the linked market, companies and sectors with multiple facilities taking similar decarbonization approaches may drive up product demand. As certain technologies and technological components are purchased and installed in greater quantities, decarbonization costs may decrease. Evidence suggests that emissions trading systems in other jurisdictions may have led to innovation spillover, whereby decarbonization innovations pursued by covered entities have spread to other facilities and companies not subject to the same regulation.<sup>112 113</sup> Professional networks play an important role in spurring the adoption of new technologies, which may help drive this spillover to occur regionally.<sup>114</sup> Increasing regional and corporate awareness of and workforce expertise related to low-carbon technologies, may further reduce barriers to the adoption of innovative decarbonization measures.<sup>115 116</sup>

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<sup>106</sup> Kang, S.B., Létourneau, P. 2016. Investors' reaction to the government credibility problem: A real option analysis of emission permit policy risk, *Energy Economics*, Volume 54, 2016, Pages 96-107, ISSN 0140-9883, <https://doi.org/10.1016/j.eneco.2015.11.023>.

<sup>107</sup> Blyth, W., B. Bradley, D. Bunn, et al. 2007. Investment risks under uncertain climate change policy. *Energy Policy*, 35(11): 766-5773. <https://doi.org/10.1016/j.enpol.2007.05.030>.

<sup>108</sup> Yang, J., S. Fuss, D. Johansson, et al. 2023. Investment dynamics in the energy sector under carbon price uncertainty and risk aversion. *Energy and Climate Change*, 4:100110. <https://doi.org/10.1016/j.egycc.2023.100110>.

<sup>109</sup> Chen, Z., et. al. (2025). The impact of emissions trading systems on technological innovation for climate change mitigation: a systematic review. *Climate Policy*, 25(8), 1293–1309. <https://doi.org/10.1080/14693062.2024.2443464>.

<sup>110</sup> Zhu R, Long L, Gong Y. Emission Trading System, Carbon Market Efficiency, and Corporate Innovations. *International Journal of Environmental Research and Public Health*. 2022; 19(15):9683. <https://doi.org/10.3390/ijerph19159683>.

<sup>111</sup> Karmaker, et al. 2025 Innovation under Cap-and-Trade: How emission trading systems propel decarbonization. *Next Energy*, Volume 7, 2025, 100220, ISSN 2949-821X, <https://doi.org/10.1016/j.nxener.2024.100220>.

<sup>112</sup> Becker, T., et. al. 2026. Cap-and-trade policies and regional environmental innovation: evidence from the EU Emissions Trading System, *Journal of Economic Geography*, 2026;, lbag002, <https://doi.org/10.1093/jeg/lbag002>

<sup>113</sup> Sadayuki, T., Arimura, T. 2021. Do regional emission trading schemes lead to carbon leakage within firms? Evidence from Japan, *Energy Economics*, Volume 104, 2021, 105664, ISSN 0140-9883, <https://doi.org/10.1016/j.eneco.2021.105664>.

<sup>114</sup> Martin, R. (Ed.). (2008). *Economy: Critical Essays in Human Geography* (1st ed.). Chapter 17: Gertler, M.S., "Being There": Proximity, Organization, and Culture in the Development and Adoption of Advanced Manufacturing Technologies. Routledge. <https://doi.org/10.4324/9781351159203>.

<sup>115</sup> Trianni, A., et. al. 2017. Classification of drivers for industrial energy efficiency and their effect on the barriers affecting the investment decision-making process. *Energy Efficiency* (2017) 10:199–215 DOI 10.1007/s12053-016-9455-6. <https://link.springer.com/content/pdf/10.1007/s12053-016-9455-6.pdf>.

<sup>116</sup> Trianni, A., et. al. 2016. Barriers, drivers and decision-making process for industrial energy efficiency: A broad study among manufacturing small and medium-sized enterprises. *Applied Energy*, Volume 162, 2016, Pages 1537-1551, ISSN 0306-2619, <https://doi.org/10.1016/j.apenergy.2015.02.078>.

## 4 Linkage Criteria Findings

Our analysis compares potential outcomes of Washington’s Cap-and-Invest Program if it remains a standalone program (no linkage) with potential outcomes if Washington enters into a combined carbon market with California and Québec (linkage).

As described in Section 1.4, there are six “purposes” that linkage must achieve and additional “criteria” that must be met.<sup>117</sup> We have grouped similar purposes and criteria into five main topics:

1. Allowance market operations and administrative costs
2. Compliance costs
3. Greenhouse gas emissions limits
4. Benefits to overburdened communities
5. Adverse impacts to highly impacted communities

Ecology will issue a final report with linkage criteria analysis and findings prior to making a decision on linkage.

### 4.1 Allowance market operations and administrative costs

The CCA directs Ecology to “seek to enter into linkage agreements” in order to achieve “purposes” that are related to auction operation, administrative costs, and entity compliance requirements.<sup>118</sup> These purposes include:

- Enabling “allowance auctions to be held jointly” and providing “for the mutual use and recognition” of compliance instruments.
- Providing “a unified tracking system for compliance instruments.”
- “Enhanc[ing] market security.”
- “Reduc[ing] program administration costs.”
- “Provid[ing] consistent requirements for covered entities whose operations span jurisdictional boundaries.”

#### 4.1.1 Enabling joint allowance auctions and “the mutual use and recognition” of compliance instruments

Two of the core objectives of linking any carbon markets are to establish joint auctions where allowances from all participating jurisdictions can be sold, and to ensure that compliance instruments from each participating jurisdiction are recognized by all jurisdictions.

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<sup>117</sup> The purposes are in RCW 70A.65.210(1) and the criteria are in RCW 70A.65.210(3).

<sup>118</sup> RCW 70A.65.210(1) and RCW 70A.65.210(3)(a)

The draft linkage agreement between Washington, California, and Québec has specific provisions related to the mutual use and recognition of compliance instruments:<sup>119</sup>

*Section 6 Mutual recognition of compliance instruments:* “mutual recognition of compliance instruments issued by Québec, California, and Washington State may occur as provided for under their respective market based programs and in accordance with their respective legal frameworks”

*Section 7 Trade of compliance instruments:* “trading of compliance instruments in the program registry among registered participants in Québec’s, California’s, and Washington State’s respective programs may occur as provided for under their respective market-based programs and in accordance with their respective legal frameworks”

*Section 8 Joint auctions:* “the auctioning of compliance instruments by the Participants’ respective programs may occur jointly and in accordance with harmonized procedures developed by the Participants.”

In addition to those sections, the draft linkage agreement between Washington, California, and Québec explicitly states that the intended outcome of the agreement is to:

- “allow for planning and holding joint auctions of compliance instruments,”
- “provide for the equivalence and interchangeability of compliance instruments issued by Québec, California, and Washington State for the purpose of compliance with their respective market-based programs, and”
- “permit the transfer and exchange of compliance instruments between participants registered with Québec’s, California’s, and Washington State’s respective market-based programs using a common secure registry.”

Finding: Criterion met.

#### **4.1.2 Providing a unified tracking system**

Section 9 of the draft linkage agreement discusses the use of a common program registry and auction platform.<sup>120</sup> Washington currently uses the Western Climate Initiative, Inc. (WCI, Inc.) online platforms to conduct allowance auctions, register participants, facilitate allowance

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<sup>119</sup> State of Washington and State of California and Gouvernement Du Québec. 2026. Agreement On the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California and the State of Washington Draft. <https://apps.ecology.wa.gov/publications/summarypages/2614018.html>.

<sup>120</sup> State of Washington and State of California and Gouvernement Du Québec. 2026. Agreement On the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California and the State of Washington Draft. <https://apps.ecology.wa.gov/publications/summarypages/2614018.html>.

trading, and track compliance instruments.<sup>121</sup> California and Québec use the same platforms. Therefore, all three jurisdictions already utilize the same platforms to register and track compliance instruments, lowering the administrative burden on the users, resulting in further administration and program implementation-related efficiencies.

Finding: Criterion met.

#### **4.1.3 Enhance market security**

The shared WCI, Inc. online platform that Washington, California, and Québec all use emphasizes security. Working together on a unified platform has allowed all of the jurisdictions to benefit from increased platform scrutiny and testing. Therefore, some of the advantages that were assumed to flow from linkage – sharing a proven platform with a strong record of information technology security – were realized upon launch of the Washington Cap-and-Invest market.

Linkage can further enhance market security. Once linked, all three jurisdictions would be able to more easily share information on any market participants that appear to be violating market rules or engaging in impermissible behavior in one or more jurisdictions. Based on this sharing of information, all three jurisdictions would have greater (and earlier) notice of impermissible conduct and would be able to better coordinate on potential enforcement investigations, findings, and corrective actions. This further enhances existing market security and reduces the potential for market manipulation across allowance markets that are currently separate.

Section 10 of the draft linkage agreement states that the jurisdictions “agree to work cooperatively to maintain market integrity, including preventing fraud, abuse, and market manipulation, and to ensure the reliability of the joint auction and their respective programs.”<sup>122</sup>

Finding: Criterion met.

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<sup>121</sup> Western Climate Initiative, Inc. (WCI, Inc.). 2023. <https://wci-inc.org>.

<sup>122</sup> State of Washington and State of California and Gouvernement Du Québec. 2026. Agreement On the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California and the State of Washington Draft. <https://apps.ecology.wa.gov/publications/summarypages/2614018.html>.

#### 4.1.4 Reduce program administration costs

For the purposes of analysis, Washington's administrative costs can be divided into costs based on staffing and operational needs, and costs associated with the auction platforms.

##### **Staffing and operational costs**

These costs include those associated with duties such as receiving and verifying emissions reports and conducting education and outreach to covered entities. Washington has already benefitted from collaboration with California and Québec because staff from those jurisdictions provided invaluable advice, resource materials, and other support to help Ecology staff launch the Cap-and-Invest Program by Jan. 1, 2023.

Ongoing costs for staffing and workload are largely based on the number of market participants and the volume of associated work. The number of covered entities registered in the Washington Program is unlikely to be impacted by linkage, because an entity's program participation is determined by its emissions in Washington. Linkage may result in fewer general market participants registering in Washington because they need only register in one of the linked jurisdictions, which would reduce staffing and operational costs for Ecology. While we expect staffing and operational costs to decline with linkage, the extent of any potential decline may not be significant. However, by coordinating more closely with other jurisdictions, Washington may be able to provide greater levels of service for Washington entities.

##### **Auction platform costs**

Washington's participation in the WCI, Inc. online platforms has already reduced Washington's overall Program implementation costs. The costs and time that would have been needed for Washington to develop, test, implement, and maintain its own online secure auction platform would have almost certainly been substantially higher than what Washington has paid to become a participating jurisdiction and join the existing WCI, Inc. platforms.

The extent of future cost impacts related to the auction platforms is difficult to estimate precisely. With linkage, platform development costs would only need to address a unified set of requirements for a single market rather than two sets of requirements. We expect this will result in decreasing costs over time with linkage, as the jurisdictions collaborate and continue harmonizing processes, resulting in administrative efficiencies. For example, holding joint quarterly auctions would reduce operational costs that are incurred for each event, and joint contracting for services would become easier through greater collaboration and unified requirements. This should not only reduce Washington's administrative costs but also, as explained below, meaningfully reduce the costs for covered entities who operate in more than one jurisdiction.

Finding: Criterion met.

#### 4.1.5 Provide consistent requirements for covered entities operating in more than one jurisdiction

For Washington, Québec, and California to link, the jurisdictions will need to harmonize important program requirements. This process is already well underway. When the Legislature developed the Climate Commitment Act, they adopted key elements from California’s and Québec’s programs and directed Ecology to “implement the program in a manner that allows linking the state's program with those of other jurisdictions.”<sup>123</sup> As a result, many fundamental requirements are already identical to, or substantially harmonized with, those of California and Québec. Linkage will build on these consistent requirements for covered entities.

Over the past three years, the three jurisdictions have engaged in an extensive process to analyze and discuss program requirements in detail and determine whether various requirements need to be identical, need only be similar, or can remain different. All three came to consensus on what each of these requirements should be and the degree of variability that could exist between programs to ensure an effective market that continues to drive down greenhouse gas emissions, minimize leakage, and support communities.

Ecology put forward agency request legislation (Senate Bill 6058 [2024]) for further alignment on topics such as auction purchase limits and holding limits.<sup>124</sup> Ecology is currently in a rulemaking process to implement Senate Bill 6058 and make other necessary changes to harmonize the requirements for entities operating in more than one jurisdiction.<sup>125</sup>

A stated objective of the draft linkage agreement is to “develop compatible market requirements for Québec’s, California’s, and Washington State’s respective market-based programs to ensure no entities in any of the programs are disadvantaged relative to their counterparts in the other jurisdictions,” and Section 4 of the agreement notes the three jurisdictions’ intents to pursue continued regulatory harmonization.<sup>126</sup> If Washington joins a linked market, those types of discussions will continue as each jurisdiction considers changes to its programs in the future. That process is currently occurring between California and Québec, which are both proposing revisions to their respective regulations. As a result, the draft linkage agreement will facilitate greater consistency in program requirements for covered entities operating in more than one jurisdiction.

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<sup>123</sup> RCW 70A.65.060(3)

<sup>124</sup> SB 6058 Washington State Legislature. 2023-24. Facilitating linkage of Washington's carbon market with the California-Québec carbon market. <https://lawfilesexternal.wa.gov/biennium/2023-24/Pdf/Bills/Session%20Laws/Senate/6058-S2.SL.pdf?q=20260413120009>.

<sup>125</sup> Washington Department of Ecology. Chapters 173-441 and 173-446 WAC – Cap-and-Invest Program Updates and Linkage. <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-441-446-cap-and-invest-program-updates-and-linkage>.

<sup>126</sup> State of Washington and State of California and Gouvernement Du Québec. 2026. Agreement On the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California and the State of Washington Draft. <https://apps.ecology.wa.gov/publications/summarypages/2614018.html>.

While linkage will support continued harmonization and consistent requirements for covered entities, it is important to note that not all aspects of the programs need to be identical for them to be able to link. For example, although California and Québec have successfully operated linked markets for over a decade, each jurisdiction’s program has unique characteristics, such as the types of offset projects each program allows. The same will remain true if Washington links with the other two jurisdictions.

Finding: Criterion met.

#### 4.1.6 Finding

Based on the structure of the California-Québec linked market and language in the draft Washington-California-Québec linkage agreement, Ecology determines that linkage will meet the above criteria related to allowance market operations and administrative costs.

## 4.2 Compliance costs

Before entering into a linkage agreement, Ecology must evaluate whether linkage will:

- “Provide for a more cost-effective means for covered entities to meet their compliance obligations in Washington while recognizing the special characteristics of the state’s economy, communities, and industries.”<sup>127</sup>
- “Broaden the greenhouse gas emission reduction opportunities to reduce the costs of compliance on covered entities and consumers.”<sup>128</sup>

### 4.2.1 Analysis of impacts on compliance costs

Washington State has committed to cutting greenhouse gas emissions 45% by 2030, and to achieving net carbon neutrality by 2050. Washington’s Cap-and-Invest Program is designed to reduce greenhouse gases, consistent with state emission limits, in a flexible manner, allowing entities to reduce their emissions in the ways that are the most cost-effective for them. A larger linked market expands access to economically efficient emissions reductions compared to a smaller standalone Washington market. Linkage is expected to lead to lower overall costs for Washington businesses as they decarbonize, due to increased market stability and lower allowance prices. Lower costs for Washington businesses would also lessen impacts on consumers in cases where businesses decide to pass their compliance costs on to their customers.

As mentioned earlier, unavoidable uncertainties in modeling methods mean that modeled outcomes are heavily assumption-dependent and therefore represent only part of the range of possible market and greenhouse gas emissions outcomes. The economic modeling completed by the University of California indicates that allowance prices in a standalone Washington market are likely to escalate toward the price ceiling, which is currently \$80 and will increase

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<sup>127</sup> RCW 70A.65.060(3)

<sup>128</sup> RCW 70A.65.210(1)(b)

each year, and remain at the price ceiling thereafter because the modeling projects allowance demand to exceed allowance supply.

Allowance prices in the linked market would likely be more in line with the allowance prices in the larger California-Québec market, which are currently lower. Because the larger linked market has a greater supply of allowances relative to allowance demand, the modeling estimates lower allowance prices in a linked market compared to a Washington standalone market scenario, and a lower total cost for allowances across the modeled time period (through 2030). See Section 3.2 and Figure 2 for more information on the modeling results.

Ecology analysis indicates that linkage will strengthen market stability. Increased stability is expected to reduce the overall cost of compliance for Washington covered entities, benefiting both Washington businesses and consumers. At a high level, less price volatility and increased price transparency will allow businesses to better plan cost-effective compliance strategies. Enabling effective planning is a key component to mitigating the cost of program compliance.<sup>129</sup>

Overall, allowance prices depend upon the balance of allowance supply and demand. The intent of the Cap-and-Invest Program is to provide incentives for companies to invest in reducing greenhouse gas emissions when it is economically efficient for them to do so, thereby reducing overall allowance demand and allowance prices. However, market instability in an unlinked market could delay Washington investments in new clean technologies and could cause Washington businesses to shelve short- and long-term decarbonization projects. More volatile allowance prices may result in businesses deciding to hold back on early investments to preserve working capital for potential allowance purchases. Before making significant investments in decarbonization projects, businesses often need certainty that those projects will be economically viable over decades, either due to the direct benefit of reduced compliance costs, or durable demand for new clean technologies and energy sources. If those decarbonization investments and technological innovations do not occur, then the allowance prices will trend higher, increasing compliance costs across the Program.<sup>130</sup>

Greater market stability from linkage is expected to better support decarbonization investments, which are needed to relieve pressure on allowance prices. A large and stable market for decarbonization technologies could promote further innovation in Washington's economy and make new options more readily available and affordable. As Washington grows its expertise and leadership in clean technology, in-state businesses may also gain competitive advantages as the global demand for clean energy expands.

Linkage could result in reductions in compliance costs through more efficient planning by covered entities, reductions in market-wide allowance demand through decarbonization investments and technological innovation, or decreases in allowance price following linkage. Lower compliance costs also means reduced prices for consumers in cases where businesses decide to pass their compliance costs on to their customers. Lower costs benefits all

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<sup>129</sup> See research and analysis in Section 3.3.

<sup>130</sup> See research and analysis in Section 3.3.

Washingtonians, and particularly helps lower-income residents, who spend a larger percentage of their income on necessities like food, transportation, and home heating.<sup>131</sup> Linkage, therefore, may not only help mitigate overall consumer cost impacts, it may especially lessen impacts upon vulnerable populations.

A stable and durable Cap-and-Invest Program over the long term is critical for the state to efficiently achieve greenhouse gas reduction limits. Without the Cap-and-Invest Program, Washington's greenhouse gas emissions reduction requirements would still be in force, but the state's ability to achieve those limits would be severely impeded. The loss of the Cap-and-Invest Program would likely necessitate additional sector- or site-specific policies with significantly less flexibility and greater cost.

More moderate compliance costs and reduced market volatility as a result of linkage would provide a firmer foundation from which businesses could make long-term investments in improving their operations, thereby mitigating negative impacts on consumers. This sets the stage for efficient long-term emissions reductions aligned with Washington's broader climate goals.

#### 4.2.2 Finding

Based on the relative market size, modeling results, and economic literature, Ecology determines that linkage will broaden greenhouse gas emission reduction opportunities to reduce the costs of compliance on covered entities and consumers and provide a more cost-effective means for covered entities to meet their compliance obligations in Washington.

### 4.3 Greenhouse gas emissions limits

Before proceeding with linkage, Ecology must:

- Determine that linkage will “not adversely impact Washington’s ability to achieve the emission reduction limits” of 45% by 2030, 70% by 2040, and 95% by 2050.<sup>132</sup>
- “Evaluate and make a finding regarding whether the aggregate number of unused allowances in a linked program would reduce the stringency of Washington’s program and the state’s ability to achieve its greenhouse gas emissions reduction limits.”<sup>133</sup>

#### 4.3.1 Impact of unused allowances on Washington’s emissions limits

Washington, California, and Québec, all authorize market participants to hold allowances subject to applicable holding limits. California uses the terms “banked” or “unused” allowances and the CCA uses the term “unused” allowances. In general, “unused” or “banked” allowances are allowances that market participants have in their accounts because they have not yet used them for compliance. This could be a result of actual emissions being lower than the emissions caps for a period of time, because entities are saving the allowances to use for future

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<sup>131</sup> U.S. Department of Energy. Energy. Low-Income Household Energy Burden Varies Among States- Efficiency Can Help in All of Them. [https://www.energy.gov/sites/prod/files/2019/01/f58/WIP-Energy-Burden\\_final.pdf](https://www.energy.gov/sites/prod/files/2019/01/f58/WIP-Energy-Burden_final.pdf).

<sup>132</sup> RCW 70A.65.210(3)(d)

<sup>133</sup> RCW 70A.65.210(3)

compliance obligations, or because entities plan to sell them on the secondary market to generate revenue.

An expected impact of linking is that allowance prices in Washington would align with lower and more stable prices in the California-Québec market. This is consistent with the modeling projections from the University of California and with research in other contexts as discussed in Section 4.2. Entities in California and Québec hold over 300 million unused allowances, which contributes to modeling estimates of an allowance surplus in the Washington-California-Québec linked market (see Appendix F: Market Modeling Methods and Results). The banked allowances influence the model's linked scenario allowance price estimates.

Some commenters have expressed concern that lower prices will make it more likely for covered entities to meet their compliance obligations by purchasing allowances rather than investing in operational changes to reduce their emissions, thereby threatening the ability of Washington to meet greenhouse gas emission reduction limits. While this is a risk, lower prices in the near-term may also increase the likelihood of investment in decarbonization as discussed in Section 3.3.

In addition, the University of California modeling discussed in Section 3.2 factors in existing unused allowances and shows comparable greenhouse gas emissions reductions in Washington in the linked scenario compared to the standalone scenario.

In their most recent analysis, the California Air Resources Board (CARB) concluded that the approximately 310 million unused vintage 2013-2020 allowances in market participants' accounts equaled approximately 5% of the total number of allowances issued within the joint California-Québec market.<sup>134</sup> CARB expects that these unused allowances will be used and retired by the end of the decade (2030) as the post-2020 California program nearly doubles in stringency, with a faster rate of decline in the number of new allowances available in each year.<sup>135 136</sup>

In the context of recent California legislation (AB 1207<sup>137</sup>) and the ambition in CARB's most-recent Scoping Plan needed to achieve California's climate targets,<sup>138</sup> California is now proposing changes to future allowance supply. In their Proposed Regulation Order released Jan. 20, 2026, CARB adjusted 2027-2030 allowance budgets and established post-2030 allowance

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<sup>134</sup> CARB. 2022. BR 18-51 Cap-and-Trade Allowance Report. [https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/Allowance\\_Report\\_Reso18\\_51.pdf](https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/Allowance_Report_Reso18_51.pdf).

<sup>135</sup> CARB. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. [https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp\\_1.pdf](https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf).

<sup>136</sup> In their review of the 2022 Scoping Plan, the Legislative Analyst's Office estimates a more modest reduction in unused allowances to 200 million by 2030, and recommends CARB consider program changes in order to improve the chances of meeting emissions reduction goals. California Legislative Analyst's Office. 2023. Assessing California's Climate Policies: The 2022 Scoping Plan Update. <https://lao.ca.gov/Publications/Report/4656>.

<sup>137</sup> California Assembly Bill No. 1207: Climate change: market-based compliance mechanism: extension. (2025-2026). [https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=202520260AB1207](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202520260AB1207).

<sup>138</sup> CARB. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. [https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp\\_1.pdf](https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf).

budgets consistent with the California statutory targets. The CARB proposal removes 118 million allowances from 2027-2030 annual budgets and 146 million allowances from post-2030 budgets, for a total removal of 264 million allowances.<sup>139 140</sup> These changes to future allowance budgets are expected to lead to the unused allowances being used for compliance earlier and at a faster rate.

In addition, California's January 2026 rule proposal adds a provision to retire one allowance for each offset credit used for compliance, as required by AB 1207.<sup>141</sup> This is instead of the previous approach of accounting for the use of offset credits when establishing allowance budgets and means that the removal of allowances to account for offset usage in California is now done after the retirement of offset credits, the same way as in Washington.

As mentioned above, the Environmental Justice Council and some other commenters recommended that Ecology restrict the use of unused allowances issued prior to Washington linking with California and Québec. The firm Monitoring Analytics is the company that operates as the Independent Market Monitor for both the California-Québec market and the Washington market and evaluates auctions and reserve sales, tracks and analyzes holding and trading of compliance instruments, reviews derivatives markets, and assists in monitoring market participants. Monitoring Analytics analyzed how the following policies would impact Washington in a linked market: discounting compliance values of banked allowances based on their vintage; restricting the use of allowances banked prior to linkage; and establishing an expiration date for banked allowances. Monitoring Analytics determined that:

“none of these options will result in the desired effect under the linked market because the total number of allowances (the total linked budget) is not changed by any of the proposed measures to restrict the use of banked allowances. The proposals will, however, make the linked market less efficient than it could be due to increased transaction related costs for WA covered entities. The proposals to restrict the use of banked allowances will tend to increase the compliance cost of WA entities relative to CA/QC entities under a linked market.”<sup>142</sup>

Ecology reviewed the Monitoring Analytics report and concludes that, given the relative size of the smaller Washington allowance budget, and the significantly larger combined California and Québec allowance budgets (see Section 3.1), any proposals to restrict the use of banked allowances in Washington would only shift which entities use which allowances in a linked

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<sup>139</sup> California Air Resources Board. Appendix A-1 Proposed Regulation Order Proposed Amendments to the Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms. [https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2026/cap\\_invest/nc\\_app%20a-1.pdf](https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2026/cap_invest/nc_app%20a-1.pdf).

<sup>140</sup> California Air Resources Board. January 20, 2026. Public Hearing to Consider the Proposed Amendments to the Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Staff Report: Initial Statement of Reasons. [https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2026/cap\\_invest/nc\\_isor.pdf](https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2026/cap_invest/nc_isor.pdf).

<sup>141</sup> California Assembly Bill No. 1207: Climate change: market-based compliance mechanism: extension. (2025-2026). [https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=202520260AB1207](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202520260AB1207).

<sup>142</sup> Appendix G: Memo on Treatment of CA/QC Allowances in a CA/QC/WA Linked Market

market. The effect of a Washington prohibition on banked allowance usage would be that entities would prioritize banked allowance usage for compliance in California and Québec, and newer allowances for compliance in Washington. Total usage of allowances would not change, and transaction-related costs would increase. Therefore, Ecology concludes that restrictions on unused allowances would not achieve a meaningful benefit in terms of greenhouse gas reductions.

We anticipate that Washington entities having access to the larger pool of allowances in the California-Québec market will be beneficial for lowering compliance costs and achieving greenhouse gas reductions. Washington’s market has a steep rate of cap decline until 2030 and is currently estimated to be a tight market based on the modeling described in Section 3.2.<sup>143</sup> The modeling estimates higher allowance prices and higher overall compliance costs in a Washington standalone market over those in a linked market. As discussed in Section 3.3, high allowance prices could undermine the durability and longevity of the Program, making it significantly more difficult for the state to meet its greenhouse gas emission reduction mandates. Linkage is expected to help mitigate these pressures. The availability of additional allowances is expected to have positive impacts on entity compliance costs, consumer costs, and program durability, which in turn may result in greater emissions reductions over time.

Efforts to predict future allowance prices and greenhouse gas emissions are inherently uncertain and the ability to monitor, evaluate, and modify the Program over time will be critical to ensure we meet our greenhouse gas limits. Ecology has broad authority to adjust annual allowance budgets to ensure that emissions limits are met and covered entities achieve their proportionate share of those limits in 2030, 2040, and 2050.<sup>144</sup> This authority means that if California’s and Québec’s unused allowances negatively impact the ability of Washington to meet its emissions limits, Ecology can adjust Washington allowance budgets as necessary to address the issue.

#### **4.3.2 Accounting for greenhouse gas emissions in a linked market**

In Section 13 of the draft Washington-California-Québec linkage agreement the three jurisdictions identify an “accounting mechanism [that] provides for a transparent and data-driven calculation that attributes to each Participant its portion of the total greenhouse gas emission reductions achieved collectively.”<sup>145</sup> Section 13 goes on to say:

“To avoid the double counting or double claiming of emission reductions between Québec, California, and Washington State, the jurisdiction or jurisdictions that register a negative net flow of compliance instruments agree to account for that reduction when assessing its progress toward meeting its emission reduction target or limit, while the

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<sup>143</sup> By “tight market” we mean that demand for allowances is high compared to supply and there is competition for allowances.

<sup>144</sup> RCW 70A.65.070(3)

<sup>145</sup> State of Washington and State of California and Gouvernement Du Québec. 2026. Agreement On the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California and the State of Washington Draft. <https://apps.ecology.wa.gov/publications/summarypages/2614018.html>.

other jurisdiction or jurisdictions that register a positive net flow of compliance instruments agree to appropriately recognize an opposite corresponding adjustment when assessing their progress toward meeting their respective emission reduction targets or limits.”<sup>146</sup>

The accounting mechanism referenced is currently used by California and Québec in their linked market.<sup>147</sup> The net flow is calculated at the end of each compliance period using the following formula:

$$\begin{aligned} & [The\ total\ number\ of\ domestic\ compliance\ instruments\ retired\ by\ another\ Jurisdiction] \\ & \quad \quad \quad \text{minus} \\ & [The\ total\ number\ of\ compliance\ instruments\ issued\ by\ another\ jurisdiction\ that\ were\ retired \\ & \quad \quad \quad \text{domestically}] \end{aligned}$$

In this accounting mechanism allowances and offsets are treated differently. For allowances, market participants cannot tell which jurisdiction issued an allowance. Because of this, the jurisdictions do not rely on origin of allowances to determine the net flow calculation. Instead, they use a proportional approach.

“The proportional approach, as the name indicates, consists of using the proportion of allowances available from each jurisdiction in the total WCI market supply (total market supply) when it is time to define the origin of allowances surrendered to a jurisdiction. For example, this means that if allowances from a jurisdiction represent 10% of the total market supply when allowances are surrendered, then 10% of retired allowances will be considered to have originated from that jurisdiction.”<sup>148</sup>

Market participants can identify the origin of an offset credit and can choose which specific offset credits to transfer or retire. For this reason, the proportional approach is not applied to offset credits. The accounting mechanism for offset credits is calculated based on the jurisdiction that issued the offset credit.

This transparent and data-driven accounting mechanism will allow Washington to participate in the linked market while ensuring accurate accounting when evaluating progress toward achieving our greenhouse gas limits.

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<sup>146</sup> State of Washington and State of California and Gouvernement Du Québec. 2026. Agreement On the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California and the State of Washington Draft. <https://apps.ecology.wa.gov/publications/summarypages/2614018.html>.

<sup>147</sup> California Air Resources Board. Net Flow of Compliance Instruments. <https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/program-linkage/net-flow-compliance-instruments>.

<sup>148</sup> California Air Resources Board. Accounting Mechanism for Article 8 of the 2017 Linkage Agreement. June 2022. [https://ww2.arb.ca.gov/sites/default/files/2022-06/nc-Article\\_8\\_Accounting\\_Mechanism.pdf](https://ww2.arb.ca.gov/sites/default/files/2022-06/nc-Article_8_Accounting_Mechanism.pdf).

### 4.3.3 Achieving Washington's greenhouse gas emission reduction limits

In addition to enhancing durability of the Cap-and-Invest Program, linkage may lead to greater greenhouse gas emissions reductions, as discussed in Section 3.3. In summary:

- Market stability supports consistent investment by businesses in decarbonization projects rather than employing “wait and see” compliance strategies that rely primarily on acquiring allowances.
- Predictable and sustained demand for clean technology increases innovation, lowering decarbonization costs and barriers for covered entities, consumers, and other businesses across Washington and supporting additional greenhouse gas emissions reductions.

#### **Additional safeguards exist to ensure emissions reductions**

Each jurisdiction's required emissions reductions would remain in place after linkage. As discussed above, it is also important to keep in mind that Ecology has broad authority to adjust annual allowance budgets to ensure that covered entities achieve their proportionate share of meeting Washington's emissions limits.<sup>149</sup> Ecology is directed to adjust the annual allowance budgets if necessary to ensure that these limits are met.<sup>150</sup>

There are also other backstops designed to keep prices within a specified range (see Section 1.3.3) and to keep emissions reductions on track. For example, the Emissions Containment Reserve serves as an automated tightening mechanism if demand for allowances declines. If auctions are under-subscribed and do not sell out, any allowances that remain unsold for 24 months are removed from the market and placed into the Emissions Containment Reserve. This helps keep supply and demand in balance and maintain allowance prices at a level that can encourage investment in additional emissions reductions.<sup>151</sup>

#### **The impact of other programs on greenhouse gas emissions reductions**

Although the Cap-and-Invest Program is the broadest emissions reduction program in Washington, other policies push specific industries to decarbonize and work synergistically with Cap-and-Invest to reduce greenhouse gas emissions. The Clean Energy Transformation Act (CETA) will play a significant role in decarbonizing Washington's electrical supply by 2045.<sup>152</sup> Likewise, the Clean Fuel Standard incentivizes the production of lower-carbon transportation

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<sup>149</sup> See Section 1.3.4. RCW 70A.65.070(3)

<sup>150</sup> RCW 70A.65.070(3). Any such adjustment would only occur after Ecology determined and made public the metrics and process to initiate public consideration of an allowance adjustment.

<sup>151</sup> RCW 70A.65.140

<sup>152</sup> Chapter 19.405 RCW; Department of Commerce. Clean Energy Transformation Act.

<https://www.commerce.wa.gov/growing-the-economy/energy/ceta>.

fuels and the expansion of electrified transportation infrastructure,<sup>153</sup> while the zero emission vehicle policies and incentives promote the use of electric, hydrogen, and plug-in hybrid cars.<sup>154</sup>

In the past, federal climate policy has also had a significant influence on Washington State’s ability to meet its greenhouse gas emissions limits. For example, federal funding and tax credits, including investments in low-carbon technology and infrastructure, industrial innovation, and carbon sequestration helped address barriers to decarbonization.<sup>155 156 157</sup> However, many such policies have been repealed in recent years, placing greater emphasis on state-level funding and policies to achieve Washington’s emission limits. Policies at the state-level, such as technical assistance and grant programs, in addition to the regulatory programs mentioned above, are important for supporting Washington’s climate goals, as discussed in the recent legislative report on emissions-intensive, trade-exposed industries and the state energy strategy.<sup>158 159</sup> Therefore, although the Cap-and-Invest Program is critical to achieving the State’s emission limits, other programs will complement the Cap-and-Invest Program to provide additional incentive for decarbonization across different sectors, while also moderating demand for allowances and putting downward pressure on allowance prices. And more cost-effective emissions reductions under the Cap-and-Invest Program will make it easier for Washington industries to decarbonize under other state and federal climate policies.

### **Overall greenhouse gas reductions with linkage**

As discussed in Section 3.2, linkage could result in moderately increased emissions in Washington in the short-term, as compared to an unlinked scenario, while total linked market emissions further into the future would be expected to be lower. Modeling predicts that linkage could also result in near-term reductions in allowance prices and lower overall compliance costs for covered entities in Washington over the modeled time period. An initial drop in allowance prices as a result of linkage, combined with the certainty of increased program stringency and

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<sup>153</sup> Chapter 70A.535 RCW; Department of Ecology. Clean Fuel Standard. <https://ecology.wa.gov/air-climate/reducing-greenhouse-gas-emissions/clean-fuel-standard>.

<sup>154</sup> Department of Ecology. Zero-emissions Vehicles Law. <https://ecology.wa.gov/Air-Climate/Reducing-Greenhouse-Gas-Emissions/ZEV>.

<sup>155</sup> The White House. The Inflation Reduction Act Guidebook. 2023. <https://www.whitehouse.gov/cleanenergy/inflation-reduction-act-guidebook>.

<sup>156</sup> U.S. Department of Energy. 2026. Office of Critical Minerals and Energy Innovation. “Energy Department Announces \$155 Million to Advance American Industrial Innovation.” <https://www.energy.gov/cmei/articles/energy-department-announces-155-million-advance-american-industrial-innovation>.

<sup>157</sup> Carbon Capture Coalition. 2025. “Primer: 45q tax credit for Carbon Capture Projects.” <https://carboncapturecoalition.org/wp-content/uploads/2025/09/45Q-primer-Carbon-Capture-Coalition.pdf>.

<sup>158</sup> Washington State Department of Ecology. January 2026. Report to the Legislature on EITE allowance allocation 2035 - 2050 Leakage mitigation policies for facilities classified as Emissions-Intensive, Trade Exposed Industries under the Cap-and-Invest Program. Chapter 8. <https://apps.ecology.wa.gov/publications/summarypages/2514113.html>.

<sup>159</sup> Washington State Department of Commerce. 2020. Washington 2021 State Energy Strategy. <https://deptofcommerce.app.box.com/s/zsbjvf0nato9q7dk3t7jjh0vjbd4iqof>.

declining emissions caps in the coming years, could lead to greater decarbonization in the long term. While allowance prices that are consistently too low may disincentivize investments in decarbonization, such a situation, if it were to occur, could be addressed in a future rulemaking by adjusting the allowance supply.

In the near-term following linkage, covered entities in Washington may have reduced compliance costs that enable them to invest in technological innovation. However, as emissions caps continue to decline, covered entities face greater incentives to adopt low carbon technologies in order to minimize compliance costs.<sup>160</sup> A delay in these direct effects, may help provide an opportunity for low-carbon technology pathways to become more available and affordable, thereby reducing the risk of emissions leakage and supporting the achievement of Washington’s emissions reduction limits. Considering these benefits and the additional safeguards discussed above, linkage is not expected to adversely impact Washington’s ability to achieve its greenhouse gas reduction limits.

Washington is a leader in the efforts to address the climate crisis by committing to decarbonizing its economy within thirty years and putting in place broad-based policies to do so. Other states are following Washington’s lead and are now building, or actively considering, cap-and-invest programs. Linking fledgling cap-and-invest programs to established carbon markets as they get off the ground and begin operation can minimize the difficulties of a program launch while maximizing the possibility of positive results. Washington’s potential linkage with California and Québec could serve as a powerful demonstration that linkage is not only achievable but is an effective way for subnational governments to work together to address this crisis.

#### **4.3.4 Finding**

By joining the larger and more stable California-Québec market, Washington’s Cap-and-Invest Program would likely become more stable and durable, setting the stage for long-term success, revenue generation, and on-going emissions reductions. In addition, the modeling results and literature support Ecology’s determinations that unused allowances in the linked program would not reduce the stringency of Washington’s Program and that linkage will not adversely impact Washington’s ability to achieve its greenhouse gas reduction limits.

### **4.4 Benefits to overburdened communities in California and Québec**

The CCA states that “a linkage agreement approved by the department must ... ensure that the linking jurisdiction has provisions to ensure the distribution of benefits from the program to vulnerable populations and overburdened communities.”<sup>161</sup>

California and Québec both have extensive policies separate from their cap-and-trade programs to provide benefits to vulnerable populations, overburdened communities, or analogous communities, such as public funding for education, public funding for health care, and tax

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<sup>160</sup> Karmaker, et al. 2025 Innovation under Cap-and-Trade: How emission trading systems propel decarbonization. Next Energy, Volume 7, 2025, 100220, ISSN 2949-821X, <https://doi.org/10.1016/j.nxener.2024.100220>.

<sup>161</sup> RCW 70A.65.210(3)(b)

credits for low-income families. For example, as a result of its many social support and income equality-oriented policies and relatively low cost of living, Québec has the lowest poverty rate in Canada.<sup>162</sup> However, the analysis in this section focuses on policies tied directly to the cap-and-trade programs, including benefits from projects funded by allowance auction revenue, offset projects, and air quality improvements.

This criterion, as well as the criterion concerning adverse impacts to highly impacted communities (Section 4.5), asks Ecology to look at impacts on “vulnerable populations,” “overburdened communities,” and “highly impacted communities.” For both of these criteria, we used California’s and Québec’s definitions and identifications of analogous communities in their respective jurisdictions.

- For California, we used their definition and identification of priority populations, which includes disadvantaged communities, and low-income communities and households.<sup>163</sup>
- For Québec, we used their definition and identification of communities through the Material and Social Deprivation Index,<sup>164</sup> and northern communities. The northern population is approximately one third Aboriginal peoples, divided into the Inuit, Cree, Innu, and Naskapi Nations, and 31 communities.<sup>165</sup>

For additional information on these terms, see Appendix B: Comparison of Overburdened Communities, Highly Impacted Communities, and Analogous Terms Across Jurisdictions. In addition to the various policies and programs that California and Québec already have in place to benefit overburdened communities, the draft linkage agreement includes the following statement:

“Québec, California, and Washington State are committed to using the proceeds from their market-based programs to further reduce pollution caused by greenhouse gas emissions, adapt to climate change impacts, expand clean transportation options, encourage the clean energy transition, and improve public health, quality of life and economic opportunity, particularly for disadvantaged and overburdened communities and vulnerable populations, as may be directed by their respective program regulations or enabling statutes”<sup>166</sup>

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<sup>162</sup> Statistics Canada. 2022. Disaggregated trends in poverty from the 2021 Census of Population.

<https://www12.statcan.gc.ca/census-recensement/2021/as-sa/98-200-X/2021009/98-200-X2021009-eng.cfm>.

<sup>163</sup> California Climate Investments. Priority Populations. <https://www.caclimateinvestments.ca.gov/priority-populations>.

<sup>164</sup> Québec Government. 2024. Material and Social Deprivation Index.

<https://www.inspq.qc.ca/en/deprivation/material-and-social-deprivation-index>.

<sup>165</sup> Québec Government. 2026. Northern Québec Territory. <https://www.quebec.ca/en/government/quebec-at-a-glance/northern-quebec-territory>.

<sup>166</sup> State of Washington and State of California and Gouvernement Du Québec. 2026. Agreement On the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California and the State of Washington Draft.

<https://apps.ecology.wa.gov/publications/summarypages/2614018.html>.

#### 4.4.1 California

In California, funds generated from the Cap-and-Invest Program’s auction of state-owned allowances are deposited into the Greenhouse Gas Reduction Fund and appropriated by the California Legislature. The Legislature allocates auction proceeds toward programs administered by 23 state agencies, collectively referred to as California Climate Investments. California directs a minimum of 35% of California Climate Investments toward projects that benefit “priority populations,” which are disadvantaged communities and low-income communities and households. These requirements were initially established in 2012 through Senate Bill (SB) 535 and then updated through Assembly Bill (AB) 1550.<sup>167</sup> SB 535 directs the California Environmental Protection Agency to designate disadvantaged communities.<sup>168</sup> The minimum funding levels established through SB 535 and AB 1550 are:

- At least 25% of auction proceeds must be invested in projects that are located in or benefit individuals living in disadvantaged communities.
- An additional minimum of 5% of auction proceeds must be invested in projects located in low-income communities or benefiting low-income households.
- An additional minimum of 5% must be allocated toward projects within and benefiting low-income communities, or low-income households, that are within ½ mile of a disadvantaged community.

As of November 2024, California reports that 73%, or over \$9.2 billion of implemented California Climate Investments project funding is benefiting priority populations, greatly exceeding statutory requirements. These investments are providing a variety of benefits including cleaner air, increased mobility options, greener communities, expanded access to clean energy, and new employment opportunities.<sup>169</sup> California Climate Investments is the only sustained source of funds for many of these critical programs that benefit priority populations—prior to the Cap-and-Invest Program, there was no dedicated funding for these activities.

CARB also created the Community Air Protection Program, required under AB 617, which funds air monitoring and air pollution emissions reduction to reduce exposures in communities most impacted by air pollution.<sup>170</sup> California Climate Investments fund nearly all implementation of the Community Air Protection Program. The implementation of long-term air monitoring in overburdened communities is essential to evaluating the effectiveness of targeted strategies developed and implemented under the program to reduce health impacts in neighborhoods most impacted by air pollution.

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<sup>167</sup> SB 535: De León, Chapter 830, Statutes of 2012; AB 1550: Chapter 369, Statutes of 2016.

<sup>168</sup> California Office of Environmental Health Hazard Assessment. 2026. SB 535 Disadvantaged Communities. <https://oehha.ca.gov/calenviroscreen/sb535>.

<sup>169</sup> California Climate Investments. Priority Populations. <https://www.caclimateinvestments.ca.gov/priority-populations>.

<sup>170</sup> California Assembly Bill 617. Statutes of 2017. California Air Resources Board. Community Air Protection Program. <https://ww2.arb.ca.gov/capp>.

California also allocates no-cost allowances to electrical utilities and natural gas suppliers. Revenues from those utility-owned allowances are auctioned for the benefit of ratepayers in California.<sup>171</sup> The California Public Utilities Commission directs the use of the investor-owned utilities' auction proceeds. Those auction proceeds are used in ways that benefit low-income households, such as through a credit on their electric and natural gas bills (called the California Climate Credit) and through clean energy programs. Some of the clean energy programs are required by statute, like the Disadvantaged Communities Green Tariff,<sup>172</sup> Community Solar Green Tariff,<sup>173</sup> Disadvantaged Communities – Single-family Solar Homes,<sup>174</sup> and the Solar on Multifamily Affordable Housing Programs.<sup>175</sup>

Entities with compliance obligations in California can use a limited number of offset credits for compliance (for up to 4% of emissions during 2021-2025 and 6% of emissions from 2026 and beyond). AB 398 created an additional requirement that at least half of the usage limit for a given entity must be met with offset credits derived from projects that provide direct environmental benefits to the state of California.<sup>176</sup> AB 398 defines direct environmental benefits (DEBs) projects as projects that result in “the reduction or avoidance of emissions of any air pollutant in the state or the reduction or avoidance of any pollutant that could have an adverse impact on waters of the state.”<sup>177</sup> Of the 46 million offset credits issued in the past three years, 40% are for projects offering direct environmental benefits to California’s air or water quality.<sup>178</sup> AB 398 also instructed CARB to establish a Compliance Offset Protocol Taskforce to recommend ways to prioritize benefits from offset projects to disadvantaged communities, Tribal lands, and rural and agricultural areas. The task force shared its final recommendations in March 2021.<sup>179</sup>

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<sup>171</sup> California Air Resources Board. 2023. Electrical Distribution Utility and Natural Gas Supplier Allowance Allocation. <https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/allowance-allocation/edu-ngs>.

<sup>172</sup> California Public Utilities Commission. The Disadvantaged Communities Green Tariff DAC-GT Program. <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/solar-in-disadvantaged-communities/the-disadvantaged-communities-green-tariff-dac-gt-program>.

<sup>173</sup> California Public Utilities Commission. The Community Solar Green Tariff CSGT Program. <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/solar-in-disadvantaged-communities/the-community-solar-green-tariff-csgt-program>.

<sup>174</sup> California Public Utilities Commission. Solar in Disadvantaged Communities. <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/solar-in-disadvantaged-communities>.

<sup>175</sup> California Public Utilities Commission. The Solar on Multifamily Affordable Housing (SOMAH) Program. <https://www.cpuc.ca.gov/somah>.

<sup>176</sup> California Assembly Bill 398: Statutes of 2017. California Air Resources Board. <https://legiscan.com/CA/text/AB398/id/1578753/California-2017-AB398-Amended.html>.

<sup>177</sup> California Air Resources Board. 2023. Direct Environmental Benefits in the State (DEBs). <https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/direct-environmental-benefits>.

<sup>178</sup> California Climate Investments. 2025. Annual Report: Cap-and-Trade Auction Proceeds. [https://ww2.arb.ca.gov/sites/default/files/auction-proceeds/cci\\_annual\\_report\\_2025.pdf](https://ww2.arb.ca.gov/sites/default/files/auction-proceeds/cci_annual_report_2025.pdf).

<sup>179</sup> California Air Resources Board. 2021. Compliance Offsets Protocol Task Force Final Recommendations, March 2, 2021. <https://ww2.arb.ca.gov/resources/documents/compliance-offsets-protocol-task-force-final-recommendations-march-2-2021>.

California does not currently have incentives or requirements to locate offset projects in disadvantaged communities, low-income communities, or on Tribal lands. However, 49 million of the total offset credits issued by CARB so far are for Tribal projects, and over 47 million are for Alaska Native Corporation projects.<sup>180</sup>

For additional information on the benefits from California’s Cap-and-Invest Program to communities in California, see Appendix E: Washington Cap-and-Invest Linkage Criteria Qualitative Analysis from Western Washington University.

#### 4.4.2 Québec

In Québec, by law, all auction proceeds are deposited in the Fund for Electrification and Climate Change and can only be used for the fight against climate change.<sup>181</sup> The 2030 Plan for a Green Economy (Green Economy Plan) “guides the government’s action to reduce greenhouse gas emissions and adapt to climate change over the course of this decade.” One of the nine principles in the Green Economy Plan is to “ensure a just transition for society as a whole and factor in the specific realities of each of Québec’s regions.”<sup>182</sup> The Government of Québec envisions a just climate transition as one in which the social, economic, and environmental benefits and costs are distributed equitably and fairly between the various societal stakeholders and current and future generations. Québec has many social programs in place, including the government-run universal health care system, and it recognizes that not all individuals and groups in society are equal in the face of climate change and that certain population groups will be more affected than others, particularly low-income households.

Québec develops five-year implementation plans that are revised every year to outline the climate actions adopted to implement the Green Economy Plan. Actions included in the Implementation Plans must be made with a just transition focus, meaning that Québec has a goal to ensure the benefits and costs of this transition are fairly distributed. Examples of just transition issues that are receiving particular attention under the Green Economy Plan include: prioritizing adaptation measures based on risk level, a just energy transition, fairness for future generations, competitiveness of economic sectors and companies, and matching skills with labor needs.

In our analysis, we found that the Québec Cap-and-Trade Program does not have mandatory funding targets (such as a percentage of revenues) for communities identified using the Material and Social Deprivation Index. However, the current 2025-2030 Implementation Plan<sup>183</sup> continues to build on the mitigation and adaptation goals and programs established in the

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<sup>180</sup> California Air Resources Board. 2026. “Compliance Offset Program.” <https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program>

<sup>181</sup> Québec Government. Electrification and Climate Change Fund (FECC). <https://www.environnement.gouv.qc.ca/ministere/fonds-electrification-changements-climatiques/index.htm>.

<sup>182</sup> Québec Government. 2020. 2030 Plan for a Green Economy. <https://www.quebec.ca/en/government/policies-orientations/plan-green-economy>.

<sup>183</sup> Québec Government. 2025. 2030 Plan for a Green Economy, 2025-2030 Implementation Plan. <https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/analyse-impact-plan-mise-oeuvre-2025-2030-en.pdf>.

2023-2028 Implementation Plan<sup>184</sup> that are designed to benefit those communities. For example, some programs aim to reduce industrial and transportation sector emissions, which would benefit air quality in communities impacted by those sources.<sup>185</sup> And in planning greenhouse gas reduction strategies, the government of Québec considers the impact on the most vulnerable populations and benefits for health, society, and the economy.<sup>186</sup>

The current Implementation Plan targets 680 million Canadian Dollars (CAD) to protect the health, safety, and quality of life of all people and communities facing climate impacts (Objective 2.1 of the 2025-2030 Implementation Plan).<sup>187</sup> One area of focus is strengthening Québec's resilience to the impacts of climate change, with a focus on impacts to the people and communities most at risk.

In the first four years of implementation of the *Plan for a Green Economy 2030*, carbon market auction proceeds have generated 6.2 billion CAD. These funds have been invested across all regions of Québec. They directly support municipalities, citizens and civil society organizations, First Nations and Inuit communities, industry, and small and medium-sized enterprises. The current Implementation Plan continues to include programs to benefit northern and indigenous communities – nearly 250 million CAD to support off-grid communities to plan and implement renewable energy projects, including an increase of 25 million CAD funding for Inukjuak and other Nunavik communities; and over 23 million CAD to support indigenous community leadership in the climate transition. Finally, over 7.9 billion CAD are dedicated to the electrification of the transportation sector (car, light trucks, public transit, and school transit) which will improve air quality in communities.<sup>188</sup>

In our review of policies related to benefits from offset projects, we did not find policies in Québec used to incentivize the development of offset projects in communities identified using the Material and Social Deprivation Index, or in northern communities.

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<sup>184</sup> Québec Government. 2023. 2030 Plan for a Green Economy, 2023-2028 Implementation Plan (French). <https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-mise-oeuvre-2023-2028.pdf>

<sup>185</sup> Québec Government. 2025. 2030 Plan for a Green Economy Implementation Plan.

<https://www.quebec.ca/en/government/policies-orientations/plan-green-economy/implementation>.

<sup>186</sup> Québec Government. 2025. Impact Analysis on GHG Emissions and the Economy. 2030 Plan for a Green Economy, 2025-2030 Implementation Plan. <https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/analyse-impact-plan-mise-oeuvre-2025-2030-en.pdf>.

<sup>187</sup> Québec Government. 2025. 2030 Plan for a Green Economy, 2025-2030 Implementation Plan. <https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-mise-oeuvre-2025-2030.pdf>.

<sup>188</sup> Québec Government. 2025. 2030 Plan for a Green Economy, 2025-2030 Implementation Plan. <https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-mise-oeuvre-2025-2030.pdf>.

For additional information on the benefits from Québec’s Cap-and-Trade Program to communities in Québec, see Appendix E: Washington Cap-and-Invest Linkage Criteria Qualitative Analysis from Western Washington University.

#### 4.4.3 Finding

Based on analysis of the California Cap-and-Invest Program and Québec Cap-and-Trade Program and provisions included in the draft linkage agreement, Ecology determines that the linking jurisdictions have provisions to ensure the distribution of benefits from the program to vulnerable populations and overburdened communities.

### 4.5 Adverse impacts to highly impacted communities

The CCA requires that “a linkage agreement approved by the department must...be determined by the department to not yield net adverse impacts to either jurisdictions’ highly impacted communities or analogous communities in the aggregate, relative to the baseline level of emissions.”<sup>189</sup>

The CCA uses the term “net adverse impacts” but does not define it. Ecology interprets this to mean that the overall impact of linking on highly impacted communities or analogous communities must be neutral or positive relative to a standalone Washington Cap-and-Invest Program.

We expect that the impacts of linkage will vary in scale and type – ranging from environmental to economic. In addition to the analysis included in this report, Ecology will also complete a regulatory analysis required for rulemaking and an Environmental Justice Assessment meeting the requirements of RCW 70A.02.060. A draft Environmental Justice Assessment<sup>190</sup> is available for review and the preliminary regulatory analysis for the Cap-and-Invest Program Updates and Linkage rulemaking<sup>191</sup> is expected in spring 2026.

In defining the term “highly impacted communities,” the CCA refers to the process used to designate those communities in CETA. For CETA, the Washington Department of Health designates a highly impacted community as “any census tract with a 9 or 10 overall rank on the Environmental Health Disparities map, or any census tract with tribal lands.”<sup>192</sup>

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<sup>189</sup> RCW 70A.65.210(3)(c)

<sup>190</sup> Washington Department of Ecology. April 2026. Potential linkage of Cap-and-Invest carbon market with the joint California-Québec carbon market (Draft): An Environmental Justice Assessment (per RCW 70A.02.060). <https://apps.ecology.wa.gov/publications/summarypages/2614019.html>.

<sup>191</sup> Washington Department of Ecology. Chapters 173-441 and 173-446 WAC – Cap-and-Invest Program Updates and Linkage. <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-441-446-cap-and-invest-program-updates-and-linkage>.

<sup>192</sup> Washington State Department of Health. Clean Energy Transformation Act – Cumulative Impact Analysis. <https://doh.wa.gov/data-statistical-reports/washington-tracking-network-wtn/climate-projections/clean-energy-transformation-act>.

For California and Québec, we look at analogous communities as described in Appendix B: Comparison of Overburdened Communities, Highly Impacted Communities, and Analogous Terms Across Jurisdictions:

- California: priority populations, which include disadvantaged communities and low-income communities and households.
- Québec: communities identified through the Material and Social Deprivation Index and northern communities.

Many of the expected linkage impacts on Washington communities described below would be the result of more stable allowance prices and a lower overall cost of compliance, compared to if Washington's program remains standalone. In Section 3.2 we note that modeling indicates the allowance price after Washington links would be largely influenced by the California-Québec allowance price and that all three jurisdictions would benefit from more cost-effective emissions reductions and greater market stability. Therefore, we expect that linking with Washington would result in minimal impacts on California and Québec's allowance prices and therefore an overall neutral or positive impact to communities there.

For additional background information on each of the topics in this section, see Appendix E: Washington Cap-and-Invest Linkage Criteria Qualitative Analysis from Western Washington University.

#### 4.5.1 Air pollution and health

Some commenters expressed concerns that lower allowance prices in Washington, as a result of linkage, would reduce the incentive for facilities to invest in decarbonization. Commenters were concerned that this would also result in increased local air pollution or slow the reduction of air pollution from those facilities.

Commenters pointed to numerous studies of varying methodology and scope reviewing California's Cap-and-Invest Program and assessing whether it resulted in air quality getting better or worse for highly impacted communities, with mixed results.<sup>193</sup> CARB has looked into the potential relationship between implementation of California's Cap-and-Invest Program and

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<sup>193</sup> Studies Ecology reviewed to analyze impacts to air quality from the California cap-and-trade program include: OEHHA. 2022. Impacts of Greenhouse Gas Emissions Limits Within Disadvantaged Communities: Progress Towards Reducing Inequities. <https://oehha.ca.gov/environmental-justice/report/ab32-benefits>; Hernández-Cortés, D., K Meng. 2023. Do environmental markets cause environmental injustice? Evidence from California's carbon market. *Journal of Public Economics* 217: 104786. <https://doi.org/10.1016/j.jpubeco.2022.104786>; Cushing, L., D. Blaustein-Rejto, M. Wander, et al. 2018. Carbon trading, co-pollutants, and environmental equity: Evidence from California's cap-and-trade program (2011–2015). *PLOS Medicine*. <https://doi.org/10.1371/journal.pmed.1002604>; Pastor, M., M. Ash, L. Cushing, et al. 2022. Up in the Air: Revisiting Equity Dimensions of California's Cap-and-Trade System. USC Dornsife Equity Research Institute. <https://dornsife.usc.edu/eri/publications/up-in-the-air-revisiting-equity-dimensions-of-californias-cap-and-trade-system>.

local air pollution and has posted its own assessment.<sup>194</sup> In this analysis, Ecology does not review those studies in detail or evaluate the methodology used in each. The CCA requires Ecology to compare the impact of linking to the impact of not linking. The CCA does not direct Ecology to evaluate the efficacy of greenhouse gas emissions trading systems in general in reducing criteria air pollutants. Therefore, an evaluation of the impact of California’s Cap-and-Invest Program on criteria air pollution in California is beyond the scope of this analysis.

Lower allowance prices may in some instances temporarily reduce the strength of incentives for investment in decarbonization. However, as discussed in Sections 3.3 and 4.3.3, a company’s decision to invest in decarbonization is influenced by a variety of factors. Ecology expects that linkage will support a stable financial and regulatory environment that could accelerate the development and deployment of technologies that enable reduced combustion of fossil fuels and the use of operating conditions that can minimize the emissions of both greenhouse gases and other air pollutants. As allowance supply decreases in accordance with statewide and provincial greenhouse gas limits, covered entities will still be incentivized to decarbonize.

### **Provisions in the CCA to address air pollution in overburdened communities**

Criteria air pollution has been shown to negatively impact human health.<sup>195</sup> <sup>196</sup> The CCA includes several provisions intended to decrease criteria air pollution in communities most highly impacted by that type of pollution. These policies would remain in place in a linked program. At its core, the Improving Air Quality in Overburdened Communities Initiative was created to characterize and track air quality in overburdened communities over time, determine the sources of air pollution, establish air quality targets, and adopt and enforce strategies to reduce air pollution and protect human health in and with those communities and Tribes (see Section 1.3.6).<sup>197</sup> These same communities and Tribes identified as overburdened and highly impacted by criteria air pollution largely overlap with those identified as highly impacted communities through the CETA process.

Air quality and environmental justice provisions in the Climate Commitment Act, in alignment with the Healthy Environment for All Act, direct Ecology to reduce criteria air pollutants in overburdened communities highly impacted by air pollution. In 2024, Ecology announced a new rule, Chapter 173-448 of the Washington Administrative Code, to help reduce criteria air pollution in overburdened communities identified by Ecology.<sup>198</sup> The goal is to determine

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<sup>194</sup> CARB. 2023. FAQ Cap-and-Trade Program: Environmental Justice Communities and Local Air Pollution. <https://ww2.arb.ca.gov/resources/documents/faq-cap-and-trade-program>.

<sup>195</sup> U.S. Environmental Protection Agency. Criteria Air Pollutants. <https://www.epa.gov/criteria-air-pollutants>.

<sup>196</sup> Washington Department of Ecology. 2025. 2025 Report: Overburdened Communities Highly Impacted by Air Pollution. <https://apps.ecology.wa.gov/publications/SummaryPages/2502037.html>.

<sup>197</sup> Washington Department of Ecology. Improving Air Quality in Overburdened Communities. <https://ecology.wa.gov/Air-Climate/Climate-Commitment-Act/Overburdened-communities>.

<sup>198</sup> Washington Department of Ecology. 2025. Chapter 173-448 WAC. <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-448>

processes and strategies for air pollutant emission reductions to achieve air quality targets in identified overburdened communities.

The CCA also gives Ecology authority to reduce the number of offset credits a company can use for compliance if Ecology determines, with input from the Environmental Justice Council, that the company has or is likely to “contribute substantively to cumulative air pollution burden in an overburdened community” or has violated any air pollution permits.<sup>199</sup>

### **Sources of air pollution in Washington and relationship to greenhouse gas emissions**

Greenhouse gas emissions are a kind of air pollution that does not directly impact local air quality, nor does exposure to greenhouse gas emissions alone pose a direct risk to human health. In 2023 and 2025, Ecology issued two biennial reports to provide information about criteria air pollution concentrations and their health impacts, as well as greenhouse gas emissions in 16 identified communities.<sup>200 201</sup> At a high level, Ecology’s 2025 biennial report shows that some of the most significant contributors to criteria air pollution in Washington are sectors or activities that are not directly regulated by the Cap-and-Invest Program. For example, particle pollution (PM<sub>2.5</sub>) is the primary criteria air pollutant of concern in Washington due to routinely elevated concentrations and widespread population impacts. Statewide, wildfires are the dominant source of PM<sub>2.5</sub>, followed by residential woodsmoke and dust from agricultural activities such as tilling and harvesting. Wildfires are also the primary source of carbon monoxide (CO) pollution in Washington. For nitrogen dioxide and CO, combustion of fuel in on-road vehicles and non-road mobile sources is the largest human-caused source of emissions in the state.<sup>202 203</sup>

Greenhouse gases and other air pollutants simultaneously form during processes such as the combustion of fuel. Efforts to reduce greenhouse gas emissions, such as process electrification, increased adoption of renewable energy sources, transportation electrification, and employment of more energy efficient technologies, can lead to reductions in criteria air pollution.<sup>204 205</sup> However, the relationship between greenhouse gas and criteria air pollutant emissions is complex and dependent on a variety of different factors. For example, operating conditions, types of processes and equipment, installed air pollution control measures, fuels,

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<sup>199</sup> RCW 70A.65.170(3)(d)

<sup>200</sup> Washington Department of Ecology. 2023. 2023 Report: Overburdened Communities Highly Impacted by Air Pollution. <https://apps.ecology.wa.gov/publications/SummaryPages/2302115.html>.

<sup>201</sup> Washington Department of Ecology. 2025. 2025 Report: Overburdened Communities Highly Impacted by Air Pollution. <https://apps.ecology.wa.gov/publications/SummaryPages/2502037.html>.

<sup>202</sup> Washington Department of Ecology. 2025. 2025 Report: Overburdened Communities Highly Impacted by Air Pollution. <https://apps.ecology.wa.gov/publications/SummaryPages/2502037.html>.

<sup>203</sup> Greenhouse gas emissions from transportation fuels are covered by the Cap-and-Invest Program upstream at the fuel supplier level.

<sup>204</sup> Von Schneidmesser, E. & Monks, P.S. (2013). *Air Quality and Climate: Synergies and Trade-Offs*. Environmental Science Processes & Impacts. <https://doi.org/10.1039/C3EM00178D>.

<sup>205</sup> Bistline, J.E.T., et. al. (2022). *Economy-Wide Evaluation of CO<sub>2</sub> and Air Quality Impacts of Electrification in the United States*. Nature Communications. <https://doi.org/10.1038/s41467-022-33902-9>.

and types of decarbonization measures implemented can all significantly impact the emissions of greenhouse gases and other air pollutants and whether or not these emissions are correlated with one another.<sup>206 207 208 209</sup>

## Evaluation of facility-specific greenhouse gas emissions cap policy

Ecology completed an analysis of facility-specific greenhouse gas emissions caps in the context of Washington’s Cap-and-Invest Program in March 2026. This analysis was carried out in response to a 2023 letter from Washington’s Environmental Justice Council (Council) to Ecology recommending that Ecology not link Washington’s carbon market with California and Québec at that time due to concerns that linking could negatively impact overburdened communities.<sup>210</sup> The Council recommended that Ecology consider implementing certain policy tools to protect overburdened communities, including facility-specific caps.

For our analysis, Ecology relied on the Resources for the Future (RFF) definition<sup>211</sup> of facility-specific greenhouse gas emissions caps, as this was the definition the Council referred to in their October 2023 letter to Ecology. Based on RFF’s definition, the policy would impose facility-specific greenhouse gas emissions limits on certain facilities that are already covered under the Cap-and-Invest Program, including those located in overburdened communities. The policy would place individual greenhouse gas emission limits on each facility and require them to comply with those limits. Entities would thereby be forced to reduce their greenhouse gas emissions at a defined rate, rather than having the flexibility afforded by the broader carbon market that works to ensure net, statewide emissions reductions in greenhouse gas emissions to 95% by 2050 in the most cost-effective way.

RFF, in their report on this subject, suppose the outcome of this policy would be to accelerate air pollution improvement in overburdened communities, based on the assumption that a reduction in covered greenhouse gas emissions at a particular facility would also improve local air quality. However, the variability in relationship between greenhouse gases and air pollutants seen in Washington data and described in the literature illustrates the limitations of a facility-specific greenhouse gas emissions cap policy as an effective tool for addressing criteria air

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<sup>206</sup> Washington Department of Ecology. March 2026. “Facility-Specific Greenhouse Gas Emissions Caps Evaluation of this Policy and its Potential Application to Washington’s Cap-and-Invest Program.” <https://apps.ecology.wa.gov/publications/SummaryPages/2614022.html>.

<sup>207</sup> Von Schneidmesser, E. & Monks, P.S. (2013). *Air Quality and Climate: Synergies and Trade-Offs*. Environmental Science Processes & Impacts. <https://doi.org/10.1039/C3EM00178D>.

<sup>208</sup> Jordan, A.B. et. al. (2024). *Quantifying Air Quality Co-benefits to Industrial Decarbonization: The Local Air Emissions Tracking Atlas*. Frontiers Public Health. <https://doi.org/10.3389/fpubh.2024.1394678>

<sup>209</sup> Bonilla, J., Coria, J., & Sterner, T. (2018). *Technical Synergies and Trade-Offs Between Abatement of Global and Local Air Pollution*. Environmental Resource Economics. <https://doi.org/10.1007/s10640-017-0117-8>.

<sup>210</sup> Environmental Justice Council Letter to Ecology RE – Linkage Adopted on October 26, 2023. <https://waportal.org/sites/default/files/2024-01/Environmental%20Justice%20Council%20Letter%20to%20Ecology%20RE%20-%20Linkage.pdf>

<sup>211</sup> Roy, N., Russo, S., & Burtraw, D. (2025). *Considerations for Washington’s Linkage Negotiations with California and Québec Considerations for Washington’s Linkage Negotiations with California and Québec*. [https://media.rff.org/documents/Report\\_25-05\\_K1qtc92.pdf](https://media.rff.org/documents/Report_25-05_K1qtc92.pdf).

pollution.<sup>212</sup> For example, Ecology’s report examines emissions data from 2012 to 2023 and shows that while there were some instances where greenhouse gas and criteria air pollutant emissions at a given facility in Washington appeared to simultaneously increase or decrease,<sup>213</sup> there were other instances where these emissions appeared to be unrelated.<sup>214</sup> This analysis and others also found that not all types of greenhouse gas emissions reduction measures always lead to reductions in criteria air pollutant emissions. The impacts of different decarbonization measures on criteria air pollution can be dependent on a variety of factors.<sup>215</sup>

Another limitation of a facility-specific emissions cap policy is that there are certain types of facilities and emissions that are excluded from coverage under the Cap-and-Invest Program. Examples include facilities that emit less than 25,000 metric tons of carbon dioxide equivalent per year and carbon dioxide emissions from the combustion of biomass or biofuels.<sup>219</sup> Certain facilities located in or near (within 3 miles of) overburdened communities highly impacted by air pollution in Washington have a significant proportion of biogenic greenhouse gas emissions.<sup>220</sup> Those emissions are not covered under the Cap-and-Invest Program, but combustion of biogenic fuels can meaningfully contribute to criteria air pollution.<sup>221</sup> Biogenic emissions would not be eligible to be considered under the establishment of a facility-specific

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<sup>212</sup> Washington Department of Ecology. March 2026. “Facility-Specific Greenhouse Gas Emissions Caps Evaluation of this Policy and its Potential Application to Washington’s Cap-and-Invest Program.” <https://apps.ecology.wa.gov/publications/SummaryPages/2614022.html>.

<sup>213</sup> Investigation of the root cause of emissions increases and decreases was beyond the scope of the facility-specific emissions caps analysis. A variety of factors can lead to changes in emissions. Examples include changes in production, operating conditions, and/or installed equipment.

<sup>214</sup> Washington Department of Ecology. March 2026. “Facility-Specific Greenhouse Gas Emissions Caps Evaluation of this Policy and its Potential Application to Washington’s Cap-and-Invest Program.” <https://apps.ecology.wa.gov/publications/SummaryPages/2614022.html>.

<sup>215</sup> Washington Department of Ecology. March 2026. “Facility-Specific Greenhouse Gas Emissions Caps Evaluation of this Policy and its Potential Application to Washington’s Cap-and-Invest Program.” <https://apps.ecology.wa.gov/publications/SummaryPages/2614022.html>.

<sup>216</sup> Whether or not a greenhouse gas reduction measure leads to reductions in criteria air pollutant emissions is heavily dependent on the decarbonization approach selected, operating conditions, installed air pollution control measures and other facility-specific factors. See Tables 1 and 2 in the Facility-Specific Greenhouse Gas Emissions Caps report for examples of how greenhouse gas and criteria air pollutant emissions may be connected and may be impacted by different decarbonization pathways.

<sup>217</sup> Buonocore, J.J., et. al. (2021). *A Decade of the U.S. Energy Mix Transitioning Away from Coal: Historical Reconstruction of the Reductions in the Public Health Burden of Energy*. Environmental Research Letters. <https://iopscience.iop.org/article/10.1088/1748-9326/abe74c>.

<sup>218</sup> Waxman, A.R., Huber-Rodriguez, H.R., & Olmstead, S. (2024). *What Are the Likely Air Pollution Impacts of Carbon Capture and Storage*. SSRN. <https://dx.doi.org/10.2139/ssrn.4590320>.

<sup>219</sup> RCW 70A.65.090(7)

<sup>220</sup> Biogenic emissions refer to greenhouse gas emissions released from the combustion, decomposition, or processing of materials derived from biological sources, such as wood, paper, biomass-derived fuels, or agricultural residues. Biogenic carbon dioxide emissions are exempt from coverage under the Cap-and-Invest Program, as per RCW 70A.65.080(7).

<sup>221</sup> Buonocore, J.J., et. al. (2021). *A Decade of the U.S. Energy Mix Transitioning Away from Coal: Historical Reconstruction of the Reductions in the Public Health Burden of Energy*. Environmental Research Letters. <https://iopscience.iop.org/article/10.1088/1748-9326/abe74c>.

greenhouse gas emissions cap, which could significantly diminish the effectiveness of that policy for all communities in Washington.<sup>222</sup>

Additionally, Ecology identified challenges related to the efficacy and feasibility of a facility-specific emissions cap policy. First, Ecology currently lacks the statutory authority to mandate facility-specific greenhouse gas emissions caps within the Cap-and-Invest Program, and it remains unclear how the policy could be effectively implemented in concert with existing state and federal air quality standards. Second, facility-specific caps on greenhouse gas emissions could affect the carbon market in ways that may weaken the Cap-and-Invest Program’s effectiveness. Potential impacts include making it more costly for facilities to meet their compliance obligations, reduced market liquidity (the ability for companies needing to purchase allowances to access a ready supply), decreased price transparency (readily available and reliable information about the market), and increased allowance price volatility. These unintentional impacts across all covered entities could increase the cost of compliance for all sectors, including the statewide supply of transportation fuel, natural gas, and electricity imports. Such cost increases could impact consumer prices and business investments in decarbonization. Additionally, these outcomes could cause manufacturing businesses to shift production to other states with less stringent climate laws (i.e. leakage), undermining the effort to address climate change. Ecology also found that potential market impacts of this policy, such as added uncertainty over state auction revenue, may negatively impact complementary aspects of the CCA intended to help reduce criteria air pollution in communities.

While the Cap-and-Invest Program is not well-suited to directly address criteria air pollution in Washington, the CCA has several distinct provisions aimed at reducing local air pollution and improving outcomes for overburdened communities, as described earlier in this section.

### **Anticipated impacts of linkage on air pollution**

Linkage does not change or weaken Washington’s laws and rules regulating local air pollutants and does not change the various mechanisms in the CCA specifically intended to benefit overburdened communities. Regardless of linkage, air pollution will continue to be monitored and regulated through the state and federal clean air acts and state and local clean air agencies in California and Washington, and the Clean Air Regulation and Environment Quality Act in Québec.

Our analysis found that the more stable and predictable allowance prices expected in a linked market could support continued greenhouse gas reductions in Washington and drive investment, innovation, and adoption of low-carbon technologies that reduce fossil fuel combustion (see Sections 3.3 and 4.3.3). As a result, linkage may support reductions in criteria air pollution, particularly as covered entities increasingly electrify processes, leverage renewable energy sources, and employ more energy efficient technologies. A more durable

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<sup>222</sup> Washington Department of Ecology. March 2026. “Facility-Specific Greenhouse Gas Emissions Caps Evaluation of this Policy and its Potential Application to Washington’s Cap-and-Invest Program.” <https://apps.ecology.wa.gov/publications/SummaryPages/2614022.html>.

Cap-and-Invest Program that can sustain greenhouse gas emissions reductions over the long-term, through 2050, would support continued air quality improvements as well. We expect that linking with California and Québec could therefore have positive long-term impacts on air quality and public health for highly impacted communities in Washington.

Because of the comparative sizes of the respective markets, we expect linkage with Washington would not significantly affect allowance prices in the California-Québec market. Based on the analysis included above we do not expect linkage to impact air pollution in communities in California or Québec.

#### **4.5.2 Investments of auction proceeds**

In Washington, the CCA directs auction proceeds into several different accounts and determines which accounts receive priority.<sup>223</sup> For example, the Climate Commitment Act Transportation Account funds projects to reduce emissions from the transportation sector and is statutorily prioritized for funding. Remaining proceeds go into the Climate Commitment Act Operating Account and the Climate Commitment Act Capital Account. These accounts fund diverse climate investments across the state, including reduction and mitigation of greenhouse gas emissions and air pollution in overburdened communities, nature-based climate solutions, and Tribal climate efforts.

In addition, the CCA requires that a minimum of 35%, with a target of 40%, of all funding from Cap-and-Invest auction proceeds be used for projects that benefit vulnerable populations within overburdened communities.

The main drivers of CCA revenues, which determine the amount of funding available to invest in the priorities described above, are the allowance price and state-owned allowance supply. While the allowance price is determined by the market, not the state, the state has some control over the state-owned allowance supply. Allowances allocated at no cost to EITs, electric utilities, and gas utilities reduce the number of allowances sold at auction and the resulting revenue.<sup>224</sup> In a linked market, Washington will maintain full control over its no-cost allowance allocation policy, and can therefore continue to balance the goals of no-cost allowance allocation with the need to preserve revenue to invest for the benefit of Tribes, overburdened communities, and vulnerable populations.

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<sup>223</sup> In the 2026 Legislative Session, HB 2251 changed CCA account names, structure, and allocation methodology. Previously, there were four CCA accounts: the Carbon Emissions Reduction Account which funded transportation efforts, the Climate Investment Account, the Climate Commitment Account, the Nature Based Climate Solutions Account, and the Air Quality Health and Disparities Improvement Account (AQHDIA). The AQHDIA was maintained in HB 2251, however, it will no longer receive funding starting in fiscal year 2028 when the bill takes effect. The other four accounts were renamed and the Climate Investment Account, Climate Commitment Account, and Nature Based Climate Solutions Account were reorganized into two new accounts that retained the allowable uses under the three original accounts.

<sup>224</sup> Spokane Waste-to-Energy facility will also receive no-cost allocation starting in 2027.

## Impact on overall auction proceeds

Auction proceeds allocated to each jurisdiction in a linked market would be based on the number of allowances each jurisdiction adds to the joint auction. As mentioned above, if Washington links, we expect allowance prices would be similar to prices in the California-Québec market at the time of linkage. Therefore, we do not anticipate that linkage would have a significant impact on the auction proceeds in California and Québec.

The University of California modeling projects lower Washington auction proceeds in a linked market compared to a standalone Washington market. However, Washington revenues in a linked market may not be any lower than originally projected when the CCA was passed in 2021. At that time, it was assumed that allowance prices would be equivalent to those in California – starting at \$20.60 in 2023 and increasing by 7% per year.<sup>225</sup> The actual average current vintage allowance price in Washington quarterly auctions was \$54.86 in 2023, \$31.46 in 2024, and \$60.92 in the 2025.<sup>226</sup> To date, the revenues generated by the CCA have exceeded the state’s initial expectation of available funding for the CCA accounts.

As discussed in previous sections, linkage would result in a larger, more liquid carbon market with more stable prices. While revenues in Washington might be lower initially than they would be in a standalone market, this would be balanced by a more consistent and predictable source of revenue for carbon reduction and environmental justice projects over the long term.

### 4.5.3 Household energy and fuel costs

Household energy and fuel costs make up a higher proportion of household spending for low-income families.<sup>227</sup> Commenters representing energy companies shared that they expect linkage will reduce compliance and administrative costs, which would likely result in savings to their customers.

The law does not require covered entities to pass compliance costs on to their customers and Ecology does not have the authority to regulate private companies’ pricing or profits. However, the CCA has several provisions to mitigate compliance cost impacts for Washington households, most notably the free allocation of allowances to electric and natural gas utilities. Natural gas utilities must use the value of free allowances to, at a minimum, eliminate any cost impacts to low-income customers from compliance with the Cap-and-Invest Program.<sup>228</sup> The law also

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<sup>225</sup> Washington State Legislature. 2021. Multiple Agency Fiscal Note Summary: Climate Commitment Act <https://app.leg.wa.gov/committeeschedules/Home/Document/233176>.

<sup>226</sup> Washington Department of Ecology. 2024. Washington Cap-and-Invest Program Annual Proceeds Report - January 2024. Publication 24-14-011. <https://apps.ecology.wa.gov/publications/SummaryPages/2414011.html>; WA Department of Ecology. 2025. Washington Cap-and-Invest Program Annual Proceeds Report – January 2025. Publication 25-14-007. <https://apps.ecology.wa.gov/publications/SummaryPages/2514007.html>; Washington Department of Ecology. 2026. 2025 Annual Review of Auction Prices, Quantity Sold, and Proceeds – January 2026. Publication 26-14-005. <https://apps.ecology.wa.gov/publications/SummaryPages/2614005.html>.

<sup>227</sup> U.S. Department of Energy. Office of Energy Efficiency and Renewable Energy. Low-Income Household Energy Burden Varies Among States Efficiency Can Help in All of Them. [https://www.energy.gov/sites/prod/files/2019/01/f58/WIP-Energy-Burden\\_final.pdf](https://www.energy.gov/sites/prod/files/2019/01/f58/WIP-Energy-Burden_final.pdf).

<sup>228</sup> RCW 70A.65.130(2)(a)

requires that Ecology provide free allowances to electric utilities “in order to mitigate the cost burden” of the CCA.<sup>229</sup> By rule and in order to protect Washington consumers of electricity, electric utilities receive free allowances when they forecast that greenhouse gas-emitting resources will be part of their electricity supply to Washington retail customers.<sup>230</sup> Linkage does not change CCA requirements related to the free allocation of allowances to utilities.

Ecology did not quantify potential impacts to household costs from linkage partly because those impacts are dependent on pricing choices made by energy and fuel companies, which Ecology has limited insight into. Also, the cost impact of compliance is significantly mitigated for utility retail customers, particularly low-income households. However, we do know that fuel costs can be a significant expense for households and can also impact the cost of other consumer goods. The potential financial burden on consumers – and especially on lower income households – is an important consideration when weighing the impacts of the lower compliance costs anticipated in a linked carbon market.

That said, linkage is expected to reduce the compliance costs and introduce efficiencies for energy companies that operate in both Washington and California, which could reduce energy and fuel costs for households. A linked program is expected to reduce their administrative costs by ensuring consistency in Program requirements and prices across markets, allowing companies to develop one strategy for compliance and decarbonization in both jurisdictions. Linkage would also reduce concerns about compliance costs associated with potential double counting of electricity sector emissions - having a compliance obligation in two jurisdictions for the same metric ton of emissions.

#### **4.5.4 Job creation/job loss**

Increased demand for low-carbon technologies and energy options spurred by the Cap-and-Invest Program can be assumed to have a mixed impact on jobs. While some jobs in the fossil fuel and transportation industries might be lost, new job opportunities would be created as these sectors evolve. A critical component of the Climate Commitment Account is to fund training programs designed to support workers through the green transition, and the employment impact of accelerated growth in the green economy is assumed to be net positive.

We expect the impact of linkage on jobs in Washington will also be mixed. Between 2023-2025, over \$750,000 from CCA accounts funded clean energy jobs in overburdened communities.<sup>231</sup> Lower auction proceeds would mean less revenue for climate projects, but this would be countered by a more consistent source of revenue for projects over the long term (see Section 4.5.2). It is not yet known what percentage of these projects would create employment opportunities. The degree to which linkage might reduce funding for job-creating programs and

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<sup>229</sup> RCW 70A.65.120(1)

<sup>230</sup> WAC 173-446-230

<sup>231</sup> 2023-25 Biennium Climate Commitment Act investments to benefit overburdened communities and Tribes. 2023. Office of Financial Management. [https://ofm.wa.gov/wp-content/uploads/sites/default/files/public/budget/statebudget/2023-25biennial/2023-25-CCA\\_investments\\_to\\_OBC.pdf](https://ofm.wa.gov/wp-content/uploads/sites/default/files/public/budget/statebudget/2023-25biennial/2023-25-CCA_investments_to_OBC.pdf).

projects, when compared to the level of funding that would be available in a standalone market, is unknown.

Lower compliance costs in a linked market would most likely reduce the risk of leakage, which is when manufacturing facilities move to states or countries that don't regulate greenhouse gas emissions, resulting in the loss of local jobs. The risk of leakage depends on the extent to which manufacturing facilities in Washington compete with out-of-state manufacturers that are not subject to carbon pricing. It also depends on the extent to which leakage is mitigated through the provision of no-cost allowances or other policies. Washington, California and Québec all provide no-cost allowances to manufacturing facilities to minimize leakage risk associated with their carbon markets. In Washington, these manufacturing facilities, referred to as "emission-intensive, trade-exposed industries" (EITEs), support an estimated 85,000 jobs across the state.<sup>232</sup> The reduction of leakage risk in a linked market can be considered a positive impact, the potential magnitude of which is unknown.

#### 4.5.5 Offset projects

The CCA describes how offset credits can be used for compliance in a standalone Washington Program and in a linked market. In the first compliance period (2023-2026), the CCA allows for up to 5% of an entity's compliance obligation to be met with offset credits, with an additional 3% from projects on Tribal lands. That is reduced to 4% in later compliance periods, with an additional 2% from projects on Tribal lands. Since both limits include special consideration for the use of offset credits from projects on federally-recognized Tribal lands, entities must invest in Tribal projects in order to maximize the use of offset credits. In a standalone Program, all offset credits used for compliance in Washington must be from projects that provide direct environmental benefits (DEBs) to Washington. The CCA also requires Ecology to reduce the number of allowances in the annual allowance budget by the number of offset credits used for compliance, a policy often referred to as "offsets under the cap."<sup>233</sup>

In a linked program, offsets would still be "under the cap" and the overall limit on the use of offset credits for compliance and the separate limit for the use of offset credits from projects on Tribal lands would continue to apply. However, the statutory requirement for DEBs for Washington is reduced in a linked market. In a linked market, at least 50% of offset credits would need to come from projects that provide DEBs for Washington in the first compliance period (through 2026). The remaining could be from offset projects located in a linked jurisdiction. In later compliance periods (2027-2050), at least 75% must provide DEBs to Washington and the remaining 25% may come from offset projects located in a linked jurisdiction.<sup>234</sup>

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<sup>232</sup> Washington Department of Ecology. January 2026. Report to the Legislature on EITE allowance allocation 2035 - 2050 Leakage mitigation policies for facilities classified as Emissions-Intensive, Trade Exposed Industries under the Cap-and-Invest Program. <https://apps.ecology.wa.gov/publications/summarypages/2514113.html>.

<sup>233</sup> RCW 70A.65.170(5)(a)

<sup>234</sup> RCW 70A.65.170

As of March 2026, approximately 1.8 million offset credits have been issued in the Washington Cap-and-Invest Program. While Ecology does not collect transaction information about offset sales, Ecology expects that the price of offset credits from projects that provide DEBs to Washington will be lower after linkage. This is because covered entities will be able to meet a portion of their compliance obligation with non-DEBs offset credits.

In order to maintain potential offset project benefits to Tribes with treaty-ceded lands in Washington, Ecology is proposing that the additional percentage of offset credits that must be sourced from projects on Tribal lands has an added requirement to provide DEBs to Washington.<sup>235</sup>

If there is significant additional demand for offset credits from Washington covered entities, then linkage may cause the price of offset credits issued by California and Québec to increase. However, given the difference in the sizes of the markets, the impact in California and Québec is uncertain. The magnitude of any impact is expected to be relatively small.

#### 4.5.6 Mitigating climate change

Durable climate policy that reduces greenhouse gas emissions is necessary to combat environmental injustice and protect highly impacted communities. Highly impacted communities are more likely than the rest of the population to suffer from the impacts of climate change. They also tend to lack the healthcare and financial resources needed to address those impacts.

One expressed concern with linkage is that reduced allowance prices may, in turn, reduce the incentive for companies to decarbonize (see analysis in Section 3.3 and 4.3). As discussed previously, one of the most substantial impacts of linkage would be to increase Program stability, while also mitigating potential negative consumer impacts that could result from higher compliance costs in a standalone Washington market. These moderated consumer impacts could result in increased public support for the Program, which could allow for increased Program ambition and for businesses to reinvest compliance costs savings into proactive decarbonization.

A successful market linkage could also encourage other jurisdictions to adopt greenhouse gas emissions trading policies and join the linked market, further contributing to the global emissions reductions needed to avert the worst impacts of climate change.

We concluded that a larger market that is more stable, durable, and allows for more efficient emissions reductions would produce net benefits to highly impacted communities in Washington, California, and Québec.

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<sup>235</sup> Ecology is proposing this regulatory change through the Cap-and-Invest Offsets rulemaking <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-446-offsets-us-forest-protocol>.

#### 4.5.7 Program authority and oversight

If Washington, California, and Québec all decide to link, each jurisdiction will retain full authority to evaluate, adjust, and enforce its emissions trading program.

In addition to internal program reviews, each jurisdiction has external advisory bodies tasked with assessing and making recommendations. In Washington, the Environmental Justice Council is tasked with providing recommendations to the Governor and state agencies on the development and implementation of the Cap-and-Invest Program and the use of auction revenues.<sup>236</sup> The Environmental Justice Council consists of 16 members appointed by the Governor, with seats for community representatives, including a youth community representative, environmental justice practitioners, Tribes, labor, and business.

California has two external advisory bodies. The Independent Emissions Market Advisory Committee, which analyzes the environmental and economic performance of California's Cap-and-Invest Program and other relevant climate policies, then reports its findings to CARB, and the Joint Legislative Committee on Climate Change.<sup>237</sup> The Independent Emissions Market Advisory Committee is made up of five experts on emissions trading market design appointed by the Governor and Legislature.

The California Global Warming Solutions Act of 2006 required CARB to convene an Environmental Justice Advisory Committee to advise CARB in developing the Climate Change Scoping Plan, and any other matters related to implementing AB 32.<sup>238</sup> The Environmental Justice Advisory Committee is comprised of representatives from communities in California with the most significant exposure to air pollution, including communities with minority or low-income populations.<sup>239</sup>

In addition, the California Office of Environmental Health Hazard Assessment has periodically evaluated the benefits and impacts from emissions associated with climate change policies and programs in disadvantaged communities.

In Québec, the Advisory Committee on Climate Change advises the Minister of the Environment, the Fight Against Climate Change, Wildlife and Parks on climate change directions, programs, policies, and strategies.<sup>240</sup> The Committee is made up of 9 to 13 appointed members, mostly from the scientific community.

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<sup>236</sup> Washington Environmental Justice Council. <https://waportal.org/partners/home/environmental-justice-council>.

<sup>237</sup> California Environmental Protection Agency. 2026. Independent Emissions Market Advisory Committee. <https://calepa.ca.gov/independent-emissions-market-advisory-committee/>

<sup>238</sup> California Assembly Bill 32: Global Warming Solutions Act of 2006. Statutes of 2006. California Air Resources Board. <https://ww2.arb.ca.gov/resources/fact-sheets/ab-32-global-warming-solutions-act-2006>.

<sup>239</sup> California Environmental Justice Advisory Committee. 2026. <https://ww2.arb.ca.gov/environmental-justice-advisory-committee>.

<sup>240</sup> Québec Government. 2026. Climate Change Advisory Committee.

<https://www.quebec.ca/gouvernement/ministeres-et-organismes/comite-consultatif-changements-climatiques>.

Through regular program evaluations and adjustments, jurisdictions can assess whether a linked program is meeting greenhouse gas reduction and environmental justice goals and adjust allowance budgets and other program features, if needed.

#### **4.5.8 Finding**

Based on our analysis of potential impacts from linkage on compliance costs, greenhouse gas emissions limits, air pollution and health, auction proceeds, household energy and fuel costs, jobs, and offset projects, Ecology determines that linkage would not yield net adverse impacts to Washington's, California's, or Québec's highly impacted communities or analogous communities in the aggregate, relative to the baseline level of emissions.

## 5 Linkage Agreement Provisions

The linkage agreement sets expectations for information sharing, cooperation, and accounting. It is non-binding and does not create new regulations or change existing ones—that can only be done through legislation or rulemaking, and each jurisdiction has full control over its own regulations.

The current linkage agreement between California and Québec<sup>241</sup> represented the starting point for developing a new linkage agreement that includes Washington. The California-Québec linkage agreement already included many of the provisions required by the CCA. In developing the draft Washington-California-Québec linkage agreement,<sup>242</sup> Ecology ensured those provisions were maintained and added additional provisions to ensure it meets the CCA requirements in RCW 70A.65.210(2).

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<sup>241</sup> Government of California and Government of Québec. 2017. Agreement on the harmonization and integration of cap-and-trade programs for reducing greenhouse gas emissions. [https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/linkage/2017\\_linkage\\_agreement\\_ca-qc-on.pdf](https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/linkage/2017_linkage_agreement_ca-qc-on.pdf).

<sup>242</sup> State of Washington and State of California and Gouvernement Du Québec. 2026. Agreement On the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California and the State of Washington Draft. <https://apps.ecology.wa.gov/publications/summarypages/2614018.html>.

Table 2: Linkage agreement provisions

Linkage agreement provision	Relevant sections in draft Washington-California-Québec linkage agreement
Provisions relating to regular, periodic auctions, including requirements for eligibility for auction participation, the use of a single auction provider to facilitate joint auctions, publication of auction-related information, processes for auction participation, purchase limits by auction participant type, bidding processes, dates of auctions, and financial requirements. RCW 70A.65.210(2)(a)	Section 1 Objectives Section 8 Joint auctions Section 9 Common program registry and auction platforms
Provisions related to holding limits to ensure no entities in any of the programs are disadvantaged relative to their counterparts in the other jurisdictions. RCW 70A.65.210(2)(b)	Section 1 Objectives Section 4 Regulatory harmonization Section 8 Joint auctions
Other requirements, such as greenhouse gas reporting and verification, offset protocols, criteria and process, and supervision and enforcement, to prevent fraud, abuse, and market manipulation. RCW 70A.65.210(2)(c)	Section 1 Objectives Section 4 Regulatory harmonization Section 5 Offset protocols and credits Section 10 Suspension and enforcement
Common program registry, electronic auction platform, tracking systems for compliance instruments, and monitoring of compliance instruments. RCW 70A.65.210(2)(d)	Section 9 Common program registry and auction platforms
Provisions to ensure coordinated administrative and technical support. RCW 70A.65.210(2)(e)	Section 11 Coordinated administrative and technical support
Provisions for public notice and participation. RCW 70A.65.210(2)(f)	Section 1 Objectives Section 4 Regulatory harmonization Section 16 Public announcement and consultations
Provisions to collectively resolve differences, amend the agreements, and delink or otherwise withdraw from the agreements. RCW 70A.65.210(2)(g)	Section 3 Consultation process Section 12 Consultation committee Section 17 Duration of agreement Section 18 Resolution of differences Section 19 Amendments Section 22 Procedure for terminating the agreement

## 6 Next Steps

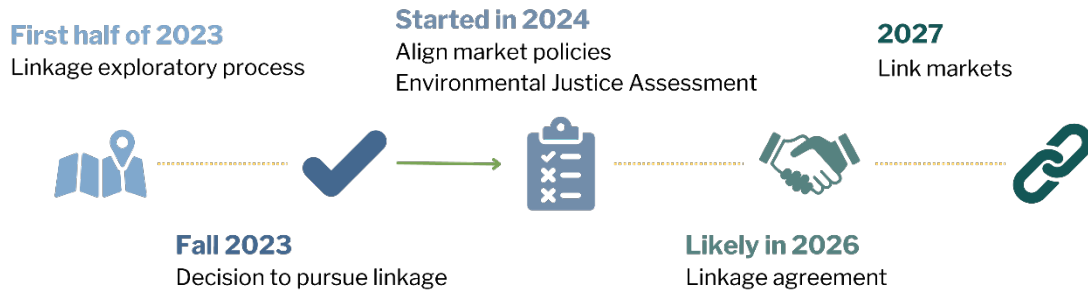


Figure 6: Process and timeline for linkage

The process to link markets is multi-step and started in January 2023.<sup>243</sup> To date, Ecology has completed the following steps to link with California and Québec:

- Decide to pursue linkage.
- Develop a draft linkage agreement with California and Québec.

The steps Ecology would need to complete before we could begin operating a linked market are described below.

### Establish findings on the linkage criteria

This document outlines Ecology’s analysis of the linkage criteria and draft findings. We will issue final findings on the linkage criteria prior to making a decision on whether to sign a linkage agreement.

### Complete an Environmental Justice Assessment

Before Washington can enter into a linkage agreement, Ecology must conduct an Environmental Justice Assessment. Ecology shared a draft Environmental Justice Assessment that includes identification of overburdened communities and vulnerable populations that could be impacted by linkage, a summary of community engagement efforts, and identification of anticipated benefits and harms from linking carbon markets.<sup>244</sup> Ecology will update this assessment to reflect comments received during the spring 2026 comment period and issue a final Environmental Justice Assessment before making a decision on whether to sign a linkage agreement.

<sup>243</sup> California and Québec have additional requirements for linking and those are not reflected here.

<sup>244</sup> Washington Department of Ecology. April 2026. Potential linkage of Cap-and-Invest carbon market with the joint California-Québec carbon market (Draft): An Environmental Justice Assessment (per RCW 70A.02.060). <https://apps.ecology.wa.gov/publications/summarypages/2614019.html>.

## Solicit public input on the draft linkage agreement

The three jurisdictions have been in discussions to develop a draft linkage agreement. As required by the CCA, Ecology shared the draft Washington-California-Québec linkage agreement and started a public comment process on March 3, 2026.<sup>245 246</sup>

## State Environmental Policy Act environmental review

We have published the SEPA analysis on linkage and made a determination of non-significance.<sup>247</sup>

## Align carbon market policies

Both before and since deciding to pursue linkage, Ecology has engaged in detailed discussions with California and Québec to compare Washington's carbon market regulations and determine whether there are any impediments to linkage.

The CCA directed Ecology to develop Washington's Cap-and-Invest Program to be "linkage-ready," so many of the key aspects of the Cap-and-Invest Program are already aligned with California's and Québec's. However, Ecology determined that some policies needed further alignment through changes to statute and regulations. Many aspects of the Cap-and-Invest Program come directly from the CCA. Changes to the statute through the legislative process were necessary for linkage and the CCA directs Ecology to "bring forth agency request legislation if the department finds that any provision of this chapter prevents linking Washington's cap and invest program with that of any other jurisdiction."<sup>248</sup> In 2024, the Legislature passed and Governor Inslee signed Ecology request legislation<sup>249</sup> to make those changes to the statute, and we began the rulemaking process to implement those changes in April 2024.<sup>250</sup>

Throughout the rulemaking process, Ecology has shared draft regulatory changes needed to link and provided the public with opportunities to comment. The rulemaking process also includes

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<sup>245</sup> State of Washington and State of California and Gouvernement Du Québec. 2026. Agreement On the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California and the State of Washington Draft.

<https://apps.ecology.wa.gov/publications/summarypages/2614018.html>.

<sup>246</sup> The CCA requires Ecology to "conduct a public comment process to obtain input and a review of the linkage agreement by relevant stakeholders and other interested parties" RCW 70A.65.210(3).

<sup>247</sup> The SEPA Environmental Checklist and Determination of Non-Significance for the project "Linkage with the California-Québec Carbon Market" are posted on the SEPA Register:

<https://apps.ecology.wa.gov/separ/Main/SEPA/Record.aspx?SEPANumber=202601519>.

<sup>248</sup> RCW 70A.65.060(6)

<sup>249</sup> SB 6058 Washington State Legislature. 2023-24. Facilitating linkage of Washington's carbon market with the California-Québec carbon market. <https://lawfilesexternal.wa.gov/biennium/2023-24/Pdf/Bills/Session%20Laws/Senate/6058-S2.SL.pdf?q=20260413142926>.

<sup>250</sup> Washington Department of Ecology. Chapters 173-441 and 173-446 WAC – Cap-and-Invest Program Updates and Linkage. <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-441-446-cap-and-invest-program-updates-and-linkage>

the development of an Environmental Justice Assessment and a regulatory analysis that summarizes the cost-benefit analysis, an alternatives analysis, and other analyses required by the Administrative Procedures Act.<sup>251</sup> We expect to propose rule changes in spring 2026 and adopt in summer 2026.

If California and Québec decide to link, they would each need to add amendments to their respective regulations to implement any potential linkage agreement. All three programs would need to complete their processes to adopt policy changes before our carbon markets could operate in a linked manner.

### **Sign a linkage agreement**

The CCA gives the Director of Ecology authorization to sign a linkage agreement only after Ecology has completed an Environmental Justice Assessment and asked for public input on a linkage agreement that meets the criteria in the CCA.<sup>252</sup>

### **Link markets**

Washington could begin participating in a linked market in 2027. The specific timing is dependent on when linkage process steps and regulatory changes are completed by all three jurisdictions.

### **How to stay engaged**

Ecology will send out announcements on the linkage process and opportunities for input through the [Climate Commitment Act email alerts](#) and post updates on the Cap-and-Invest Linkage webpage: [cca.wa.gov/linkage](https://cca.wa.gov/linkage).<sup>253</sup>

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<sup>251</sup> Requirements for Environmental Justice Assessments are outlined in the Healthy Environment for All (HEAL) Act (RCW 70A.02.060). For more information, see <https://ecology.wa.gov/about-us/who-we-are/environmental-justice/heal/ej-assessments>.

<sup>252</sup> The CCA states: “The department is authorized to enter into a linkage agreement with another jurisdiction after conducting an Environmental Justice Assessment and after formal notice and opportunity for a public hearing, and when consistent with the requirements of RCW 70A.65.210” RCW 70A.65.060(3).

<sup>253</sup> Sign up for email updates at [https://public.govdelivery.com/accounts/WAECY/subscriber/new?topic\\_id=WAECY\\_15](https://public.govdelivery.com/accounts/WAECY/subscriber/new?topic_id=WAECY_15)

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## Appendix A: Technical Terms

**Allowance price containment reserve (APCR):** An account maintained by Ecology with allowances available for sale through separate reserve auctions at predefined prices to assist in containing compliance costs for covered and opt-in entities in the event of unanticipated high costs for compliance instruments (RCW 70A.65.010(2)).

**Allowance:** An authorization to emit up to one metric ton of carbon dioxide equivalent (RCW 701.65.010(1)).

**Banked allowance:** This term is the same as unused allowance.

**Carbon dioxide equivalent:** A measure used to compare the emissions from various greenhouse gases based on their global warming potential (RCW 70A.65.010(13)).

**Compliance instrument:** An allowance or offset credit issued by the Department of Ecology or by an external greenhouse gas emissions trading program to which Washington has linked its greenhouse gas emissions Cap-and-Invest Program. One compliance instrument is equal to one metric ton of carbon dioxide equivalent (RCW 701.65.010 (18)).

**Compliance obligation:** The requirement to submit to Ecology the number of compliance instruments equivalent to a covered or opt-in entity's covered emissions during the compliance period (RCW 70A.65.010 (19)).

**Compliance period:** The four-year period for which the compliance obligation is calculated for covered entities (RCW 70A.65.010 (20)).

**Covered emissions:** The emissions for which a covered entity has a compliance obligation under RCW 70A.65.080 (RCW 70A.65.010 (22)).

**Covered entity:** Designated by Ecology as specified in WAC 173-446-030 or 173-446-060. Each facility, supplier, or first jurisdictional deliverer serving as an electricity importer is a separate covered entity.

**Direct environmental benefits (DEBs):** In the context of offsets in Washington, this means environmental benefits accomplished through the reduction or avoidance of emissions of any air pollutant in the state or the reduction or avoidance of the release of any pollutant that could have an adverse impact on land or waters of the state (WAC 173-446-020).

**Emissions Containment Reserve (ECR):** The CCA includes an Emissions Containment Reserve to withhold allowances from the market to help ensure that the price of allowances remains sufficient to incentivize reductions in greenhouse gas emissions. The ECR is also used to introduce a small number of allowances into the market in the case that new covered entities join the Cap-and-Invest Program.

**Emissions Trading System (ETS):** An approach to reduce pollution by imposing a cap on the total emissions in one or more sectors of the economy. Covered entities are then allowed to trade allowance, resulting in a market price for the allowances. Sometimes referred to as “cap and trade” or “allowance trading.” Also referred to as an Emissions Trading Scheme.

**Leakage:** A reduction in emissions of greenhouse gases within the state that is offset by a directly attributable increase in greenhouse gas emissions outside the state and outside the geography of another jurisdiction with a linkage agreement with Washington (RCW 70A.65.010 (43)).

**No-cost allocation:** Under the Climate Commitment Act, electric utilities, natural gas utilities, and emissions-intensive, trade exposed industries receive allowances at no cost. Each of these groups receives differing amounts of no-cost allowances and is subject to different requirements on how they use their no-cost allowances.

**Offset credit:** A tradable compliance instrument that represents an emissions reduction or emissions removal of one metric ton of carbon dioxide equivalent (RCW 70A.65.010 (51)).

**Price ceiling units (PCU):** The units issued at a fixed price by the Ecology for the purpose of limiting price increases and funding further investments in greenhouse gas reductions (RCW 70A.65.010 (57)). They are only available to covered entities and can only be use for compliance – they cannot be sold to other market participants to generate revenue (WAC 173-446-380).

**Secondary market:** The secondary market refers to the buying and selling of allowances between market participants.

**Settlement price:** The price announced by Ecology at the conclusion of each auction that all successful bidders pay for each allowance (WAC 173-446-020).

**Unused allowance:** allowances that market participants have in their accounts because they have not yet used them for compliance.

## Appendix B: Comparison of Overburdened Communities, Highly Impacted Communities, and Analogous Terms Across Jurisdictions

The criteria under RCW 70A.65.210(3)(b) and (c) asks Ecology to look at impacts on vulnerable populations, overburdened communities, and highly impacted communities.

“(b) Ensure that the linking jurisdiction has provisions to ensure the distribution of benefits from the program to vulnerable populations and overburdened communities;

(c) Be determined by the department to not yield net adverse impacts to either jurisdictions' highly impacted communities or analogous communities in the aggregate, relative to the baseline level of emissions;”

When looking at impacts in California and Québec, we used California’s and Québec’s definition and identification of analogous communities. For California, we used their definition and identification of priority populations, which includes disadvantaged communities, and low-income communities and households.<sup>1</sup> For Québec, we used their definition and identification of communities through the Material and Social Deprivation Index,<sup>2</sup> and northern communities.

The table below compares these terms across jurisdictions.

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<sup>1</sup> California Climate Investments. Priority Populations. <https://www.caclimateinvestments.ca.gov/priority-populations>.

California Climate Investments. California Climate Investments Priority Populations 2023. <https://gis.carb.arb.ca.gov/portal/apps/experiencebuilder/experience/?id=6b4b15f8c6514733972cabdda3108348>.

<sup>2</sup> Government of Québec. Material and Social Deprivation Index. <https://www.inspq.qc.ca/en/deprivation/material-and-social-deprivation-index>.

<b>Jurisdiction</b>	<b>Term</b>	<b>Definition</b>	<b>Source</b>
<b>Washington</b>	Overburdened Communities	"Overburdened community means a geographic area where vulnerable populations face combined, multiple environmental harms and health impacts or risks due to exposure to environmental pollutants or contaminants through multiple pathways, which may result in significant disparate adverse health outcomes or effects..."	Climate Commitment Act <a href="#">RCW 70A.65.010</a> (54)
<b>Washington</b>	Vulnerable Populations	"Vulnerable populations means population groups that are more likely to be at higher risk for poor health outcomes in response to environmental harms, due to: (i) Adverse socioeconomic factors, such as unemployment, high housing and transportation costs relative to income, limited access to nutritious food and adequate health care, linguistic isolation, and other factors that negatively affect health outcomes and increase vulnerability to the effects of environmental harms; and (ii) sensitivity factors, such as low birth weight and higher rates of hospitalization. (b) "Vulnerable populations" includes, but is not limited to: (i) Racial or ethnic minorities; (ii) Low-income populations; (iii) Populations disproportionately impacted by environmental harms; and (iv) Populations of workers experiencing environmental harms."	Climate Commitment Act <a href="#">RCW 70A.65.010</a> (54)  Healthy Environment for All Act <a href="#">RCW 70A.02.010</a> (14)
<b>Washington</b>	Highly Impacted Communities	Any census tract with a 9 or 10 overall rank on the Environmental Health Disparities map, or any census tract with tribal lands.	<a href="#">Clean Energy Transformation Act</a> RCW 19.405.020(23)  <a href="#">Washington Environmental Health Disparities Map</a>

Jurisdiction	Term	Definition	Source
<b>Washington</b>	Overburdened Communities Highly Impacted by Air Pollution	<p>Combined community indicators and air pollution indicators to identify 16 areas.</p> <p>Community indicators identified which communities are overburdened or vulnerable regardless of the air pollution impact. Indicators were any census tract with a 9 or 10 (≥80th percentile) overall rank on the Environmental Health Disparities map or census tract with ≥90th percentile on the EPA EJScreen Demographic Index.</p> <p>The air pollution indicator used a combination of monitoring, modeling, and emissions data to identify areas with an elevated level of one or more of the criteria pollutants or the highest cumulative level of criteria pollutants.</p> <p>The six criteria air pollutants are carbon monoxide (CO), lead (Pb), ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM<sub>2.5</sub>) and (PM<sub>10</sub>), and sulfur dioxide (SO<sub>2</sub>).</p> <p>Tribal lands in Washington are included and will be added based on Tribal approval.</p> <p>Community boundaries are based on where Ecology expects to see elevated levels of criteria air pollution overlap with vulnerable populations in overburdened communities. The areas included some less vulnerable populations that did not meet the community indicator thresholds to create a continuous community that is similarly impacted by air pollution.</p>	<p><a href="#">Identifying Overburdened Communities Highly Impacted by Air Pollution: Technical Support Document</a></p> <p><a href="#">Washington Environmental Health Disparities Map</a></p> <p><a href="#">EPA EJScreen</a></p>
<b>California</b>	Disadvantaged Communities (DAC)	<p>Census tracts in highest 25% of CalEnviroScreen score distribution; Census tracts in highest 5% of cumulative pollution burden score distribution; Census tracts identified in 2017 DAC designation; Lands under the control of federally recognized Tribes.</p>	<p><a href="#">California Senate Bill 535</a></p> <p><a href="#">Disadvantaged Communities Map</a></p> <p><a href="#">CalEnviroScreen</a></p>

<b>Jurisdiction</b>	<b>Term</b>	<b>Definition</b>	<b>Source</b>
<b>California</b>	Low-income communities and households	Those with incomes either at or below 80% of the statewide median or below a threshold designated as low-income by the Department of Housing and Community Development.	<a href="#">AB 1550</a>
<b>Québec</b>	Material and Social Deprivation Index (MSDI)	<p>The MSDI consists of specific socioeconomic characteristics of populations living in a small area. It is composed of two dimensions: deprivation of goods and conveniences that are a part of modern life (such as housing, possession of a car, access to high-speed internet, or a neighborhood with recreational areas) and social deprivation referring to a fragile social network, starting with the family and encompassing the community. The ranking is a 1-5 with 1 as the least deprived to 5 being the most deprived.</p> <p>The index is built on six economic indicators:</p> <ul style="list-style-type: none"> <li>• The proportion of the population aged 15 years and over without a high school diploma or equivalent;</li> <li>• The employment to population ratio for the population 15 years and over;</li> <li>• The average income of the population aged 15 years and over;</li> <li>• The proportion of the population aged 15 and over living alone;</li> <li>• The proportion of the population aged 15 and over who are separated, divorced or widowed;</li> <li>• The proportion of single-parent families</li> </ul>	<a href="#">MSDI Webpage</a>  <a href="#">Material and social deprivation index: a summary</a>  <a href="#">MSDI Map of Québec</a>
<b>Québec</b>	Northern Communities	<p>The North Québec territory extends north of the 49<sup>th</sup> parallel and north of the St. Lawrence River and the Gulf of St. Lawrence. The territory makes up 1.5% of Québec’s population (130,000 inhabitants). The Aboriginal peoples account for nearly one-third of the population.</p> <p>Income: From 2016 to 2020, disposable income per capita in Northern Québec was below the Québec average (In 2020, it was \$30,914 vs \$33,093 for all of Québec).</p>	<a href="#">Northern Québec Territory</a>  <a href="#">Indigenous communities in Québec</a>

# Appendix C: Summary of Public Comments Received in Spring 2023



# Public Engagement Summary Report

Exploring Cap-and-Invest Linkage

Prepared by Cascadia Consulting Group, Inc. for the  
Washington State Department of Ecology

June 30, 2023



# Acknowledgements

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# 1 Introduction

In 2021, the Climate Commitment Act (CCA) established Washington’s cap-and-invest program - a comprehensive, market-based program to reduce carbon pollution and achieve the greenhouse gas emissions limits set in state law. The Washington cap-and-invest program is the second of its kind in the United States. The first economy-wide greenhouse gas (GHG) emissions trading program in the U.S. began in California in 2013. A similar program was started in Québec, Canada at the same time. California and Québec linked their two programs in 2014, creating one shared carbon market.

The CCA directs the Washington State Department of Ecology (Ecology) to oversee the cap-and-invest program and “consider opportunities to implement the program in a manner that allows linking the state’s program with those of other jurisdictions” (RCW 70A.65.060(3)). In January 2023, Ecology started to explore linking Washington’s cap-and-invest program with the joint California-Québec carbon market, hereby referred to as linkage, a linked cap-and-invest program, or a linked market. A linked cap-and-invest program would mean that Washington would have joint allowance auctions with California and Québec, and all three jurisdictions would share a common allowance price. Market participants could also trade allowances across jurisdictions — meaning allowances issued by the other two programs could be used by Washington businesses to cover their emissions, and vice versa.

The CCA requires Ecology to review specific criteria to assess the potential impacts of linking on Washington’s communities, economy, and climate goals (RCW 70A.65.210). Before signing a linkage agreement, Ecology must determine that:<sup>1</sup>

- Criteria 1: The linking jurisdictions have provisions to ensure their programs provide benefits to vulnerable populations and overburdened communities.
- Criteria 2: Linking would not have an overall negative effect on highly impacted communities in any jurisdiction.
- Criteria 3: Joining markets would not negatively impact Washington’s ability to meet the emissions-reduction commitments set in state law.
- Criteria 4: Linking would reduce the cost of compliance for covered businesses.

Ecology began exploring linkage in January 2023 by reaching out to tribal governments, the Environmental Justice Council, and the public to gather input. Ecology sought input at the beginning of the exploratory process so that the input received could inform Ecology’s upcoming analysis of the linkage criteria. Ecology provided multiple public engagement opportunities, including hosting three online listening sessions, offering

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<sup>1</sup> Ecology focused on getting input on these four criteria during the public engagement period and numbered them for discussion purposes. The CCA includes additional criteria related to the purposes of linking in RCW 70A.65.210(1).

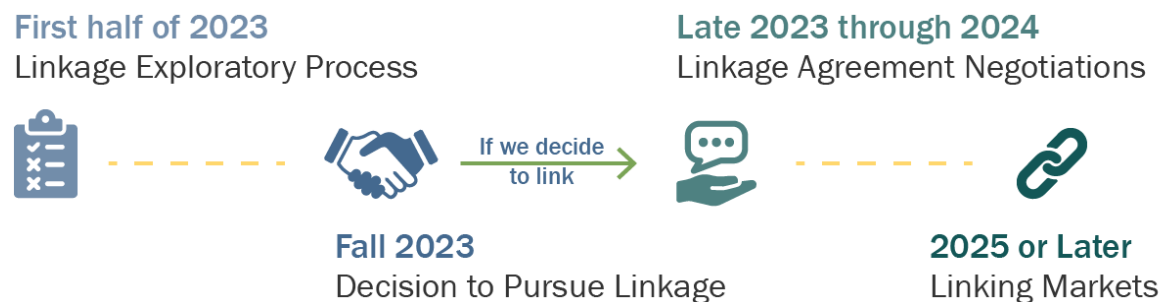
individual and small group meetings, administering an online survey, and accepting comments by email, mail, and voicemail. Through these engagement opportunities, Ecology asked stakeholders and the public about whether linkage would be beneficial to Washington and what Ecology should consider when evaluating the linkage criteria. Ecology contracted with Cascadia Consulting Group (Cascadia) early in 2023 to support public engagement and develop a high-level summary of public comments provided during the spring 2023 engagement period.

This summary report highlights common themes from the comments received during the public engagement process. It is not a comprehensive or detailed summary of that public input, due to the breadth and depth of topics covered. Cascadia recommends reading all the public comments for a more complete understanding of the range and weight of public sentiments.<sup>2</sup> In addition to reviewing this summary report, Ecology staff are reviewing all the public comments in full. This report does not include Ecology’s direct engagement with tribal governments and the Environmental Justice Council.

Ecology will use this input to inform its analysis of the linkage criteria laid out in the CCA and its preliminary decision whether to pursue linkage with California and Québec.<sup>3</sup> Ecology will release a report covering initial analysis of the linkage criteria in summer or fall 2023. Ecology plans to make a preliminary decision whether to pursue linking Washington’s carbon market with the California-Québec carbon market in fall 2023, likely October.

California and Québec will need to undergo their own processes and decide whether to link. If all three jurisdictions decide to pursue linking, they would begin negotiating a linkage agreement. Each jurisdiction may also need to make changes to their program regulations before linking. Carbon market linkage could occur sometime after 2025 (Figure 1).

**Figure 1. Timeline for linkage.**



<sup>2</sup> Available upon request, [CCALinkage@ecy.wa.gov](mailto:CCALinkage@ecy.wa.gov).

<sup>3</sup> Criteria are outlined in [RCW 70A.65.060\(3\)](#) and [RCW 70A.65.210\(3\)](#).

## 2 Public Engagement Methods

### 2.1 Public Engagement Opportunities

Between January 31 and May 15, 2023, Ecology provided multiple public engagement opportunities to solicit input on linking Washington’s cap-and-invest program with the joint California-Québec carbon market. Ecology hired Cascadia to support public engagement efforts and develop this summary of the public engagement responses across four engagement opportunities. These engagement opportunities included:

- **Three online listening sessions** to provide information on the cap-and-invest program and linkage and to gather input.
- **An online survey**, which was open for response from March 14 to May 15, 2023.
- **Individual and small group meetings** with stakeholders.
- **Open invitation for comments by email, mail, and voicemail.**

This public engagement process was the first of several opportunities that Ecology expects to offer for soliciting public input on linkage. Ecology expects additional opportunities for public input in 2024 or later.<sup>4</sup>

### Listening Sessions

Ecology hosted three online listening sessions. The purpose of the listening sessions was to provide information on the cap-and-invest program, linkage, and to gather input. Listening sessions were scheduled at varying times to support access for all interested individuals:

- March 16 from 2:00 pm to 5:00 pm.
- March 29 from 6:00 pm to 9:00 pm.
- April 18 from 10:00 am to 1:00 pm.

During the March 16 and April 18 listening sessions, attendees each self-selected into a breakout room to share their feedback on linkage and discuss linkage criteria. All breakout rooms discussed the two overarching questions. The March 29 listening session was much smaller, with 12 participants, so the group stayed together for the

<sup>4</sup> *Cap-and-Invest Linkage webpage (2023). Washington State Department of Ecology.*  
<https://ecology.wa.gov/Air-Climate/Climate-Commitment-Act/Cap-and-invest/linkage>

discussion instead of going into breakout rooms. Breakout room facilitators used an online whiteboard platform called Mural to take notes during the discussions.

- Breakout room 1 covered impacts to communities (criteria #1 and #2).
- Breakout room 2 covered impacts to meeting GHG commitments (criteria #3),
- Breakout room 3 covered impacts on cost of compliance (criteria #4).
- Breakout room 4 covered all criteria.

## Online Survey

The survey included a total of 19 questions and was accessible from March 14, 2023 to May 15, 2023. The survey was advertised on the Ecology website and shared by email and during the listening sessions. The survey asked respondents for their feedback on linking carbon markets on behalf of themselves as individuals or on behalf of their organizations. It began with questions about participant information and overarching comments, then included questions specific to four of the linkage criteria. Appendix A: Survey Questions includes the complete set of survey questions.

## Individual and Small Group Meetings

Ecology offered individual and small group meetings as another pathway for public engagement. A total of four small group or individual meetings occurred and three of those small group or individual meeting participants also submitted comments via the survey or email.

## Comment Letters and Emails

Ecology accepted comments via email, mail, and voicemail from January 31 through May 15, 2023. Ecology received all comments and comment letters by email and did not receive any comments via mail or voicemail.

## 2.2 Comment Analysis Methods

Due to the high volume of comment letters, the Cascadia team used the themes from the comment letters as the framework for the comment analysis. To process the comment letters, the Cascadia team reviewed and interpreted the comments, bucketed them topically by linkage criteria, and identified common themes that came up across the comments related to each criterion. The Cascadia team tagged comment letters by stakeholder type. Themes were considered recurring and were brought forward into the

report if they were mentioned by five or more comment letters. The comments provided by campaign email were analyzed once as part of the comment letter analysis.<sup>5</sup>

For the small group and individual meeting notes, only one of the small group meetings did not submit a separate public comment letter. To maintain consistency, the Cascadia team captured and analyzed the notes from that small group meeting with the comment letters.

To process the comments from the listening sessions and surveys, the Cascadia team reviewed comments for alignment with the themes from the comment letters. Cascadia analyzed the written Mural board comments as the primary listening session comments. These were categorized along with the criteria the comment was associated with on the Mural board. The written Mural comments may not have fully reflected the nuanced discussion within the breakout rooms and do not include questions or comments shared during the presentation and Q&A portion of the meeting.

To process survey entries, the Cascadia team took the following steps:

- Identified and removed incomplete surveys (any survey where the respondent did not select “submit”).
- Reviewed completed surveys for common themes. Results were analyzed by survey questions that were associated with four linkage criteria.

Cascadia categorized the comments as overarching comments or related to one of the four linkage criteria that were the focus of public engagement. Two of the linkage criteria address impacts on overburdened communities.<sup>6</sup> The Cascadia team chose to combine the comments related to impacts on overburdened communities (criteria 1 and 2) because there was significant thematic overlap.

During the review of public comments, the Cascadia team encountered difficulties due to the comments’ varying level of detail and technical complexity. Some of the public comments spoke specifically to the linkage criteria, while other comments were general and were not associated with a specific criterion. Some comments did not directly relate to linkage and instead shared thoughts or concerns with other aspects of the CCA. Some organizations and individuals provided comments via multiple avenues. Because

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<sup>5</sup> Campaign emails are typically pre-populated emails that organizations can encourage their constituents or members to send. The content of these emails is the same, except for the sender’s name and contact information.

<sup>6</sup> The CCA uses three different terms to talk about potential impacts of linkage on communities: vulnerable populations, overburdened communities, and highly impacted communities (RCW 70A.65.010). These terms generally refer to communities that already have a higher exposure to environmental pollutants. Commenters also used a variety of terms to talk about impacts to communities. Cascadia Consulting Group has chosen to use the term “overburdened communities” throughout this document to encompass the terms used in the CCA and the comments.

of this, the Cascadia team opted to pull forward recurring themes and comments into this report without quantifying the number of comments received on a given topic.

## 3 Engagement Results

Ecology received a robust set of public comments during the public comment period. In total, Ecology received:

- 45 unique public comment letters and emails.
- 263 responses from a campaign email.
- Over 180 total participants in the three virtual listening sessions.
- Four individual and small group meetings with 19 total attendees (virtual and hybrid).
- 11 completed surveys.

Commenters shared detailed and technical thoughts and questions on a wide range of topics through comment letters, surveys, meetings, and listening sessions. Across all the comment types, responses varied in their degree of support or opposition to linkage, and many responses included neutral statements on linkage. Individual comment letters often contained statements in support of linkage, concerns about linkage, and considerations for Ecology. Commenters offered many recommendations for Ecology to consider in evaluating the linkage criteria and deciding whether to pursue linkage.

Commenters represented a variety of stakeholders, including business and industry, energy and utility providers, environmental justice organizations, environmental organizations, government entities, academic and research institutions, trade organizations, and individuals.

Results are summarized by each of the four linkage criteria. Each section contains the following:

1. A brief narrative of some of the common themes that related to the criteria.
2. Common and unique considerations for Ecology during criteria analysis. The lists of considerations are not exhaustive or demonstrative of the breadth of feedback provided.

This report does not reflect Ecology's agreement or disagreement with any of the public comments or statements made in this summary. Additionally, the public comments and the statements made in this summary have not been verified for accuracy by Ecology, but rather summarize input as it was shared through the public engagement process.

## 3.1 Criteria 1 and 2

**Criteria 1:** *Ensure that California and Québec have provisions to ensure their programs provide benefits to vulnerable populations and overburdened communities.*

**Criteria 2:** *Ensure that linking would not have an overall negative effect on highly impacted communities in Washington, California, or Québec.*

Feedback about whether linkage can meet Criteria 1 and 2 is mixed and varied by stakeholder type. Energy producers and utilities generally believe that linking will not negatively affect overburdened communities. Due to lower costs of compliance and reduced administrative burden, some energy producers highlight the potential cost savings to end consumers as beneficial to overburdened communities. Some commenters noted that California and Québec have programs that currently provide benefits to overburdened communities. Commenters noted that communities, including overburdened ones, may benefit from consistent program oversight that may ensure reduced emissions and improved air quality if linkage is pursued.

Conversely, some commenters in the academic and non-profit sectors shared concerns about the impacts of linkage on overburdened communities. Commenters across sectors noted concerns that linkage could drive down auction prices, which many see as creating less revenue for the programs created by the CCA, to the detriment of overburdened communities. Commenters noted that linkage could decrease the amount of revenue generated from allowance auctions due to the lower price of allowances and affect Washington's ability to provide funding to programs for overburdened communities. Commenters stated that California and Québec do not have strong enough rules for protecting and supporting overburdened communities. Lastly, commenters identified concerns that linking carbon markets could dilute the strength of the CCA (such as lessening ability to reduce emissions) and reduce benefits, including funding access and air quality improvements, to overburdened communities.

## Considerations

In further analysis of Criteria 1 and 2, commenters asked Ecology to:

- Conduct more research on how linking may affect overburdened communities. Research impacts, including air quality, of the California and Québec cap-and-trade programs on overburdened communities.
- Evaluate past funding spent in California and Québec on overburdened communities.
- Examine funding alternatives if allowance prices drop and funding cannot be provided to CCA programs.

- Consider conducting a cost/benefit analysis of linking and determine if there would be a significant loss of revenue to reinvest in Washington by linking.
- Offer more engagement opportunities to better understand how overburdened communities feel about linkage, as well as how other stakeholders and sectors (including the electricity sector) feel about the current state of cap-and-invest markets.
- Understand and evaluate the range of impact to communities (as directed through HEAL Act).
- Understand how California, Québec and Washington define overburdened communities.
- Compare air quality and emissions reduction metrics between California, Québec, and Washington. Will metrics need to be localized to or adjusted across jurisdictions?
- Outline how impacts on overburdened communities will be measured and tracked over time. Understand how air quality has changed in communities, considering both regional air quality and local pollutants.

### 3.2 Criteria 3

**Criteria 3:** *Ensure that linking markets would not impact Washington's ability to meet the emissions-reduction commitments set in state law.*

Linking markets is seen to have a number of possible positive and negative impacts on Washington's ability to meet its emissions-reduction commitments. Feedback demonstrated concern about Washington's ability to meet its emissions-reduction commitments through linkage and about the lack of recent data on GHG emissions, due to a more complex market to navigate. Commenters expressed concern for potential loss of control on allowance pricing in a linked market. Commenters also noted concerns about setting allowance costs appropriately to reduce emissions; for example, linkage may deter emitters from reducing GHG emissions if the resulting costs of compliance and allowances are cheaper than decarbonizing.

Support for linkage pointed to the benefits of the wider public stage that linkage would give Washington and the ability to continue to be a leader across the country in GHG emissions-reductions and decarbonization. Commenters also noted that linking with a larger market would bring more attention to Washington's GHG emissions-reduction goals and cement Washington as a leader in emissions-reduction.

## Considerations

Commenters shared many questions, considerations, and recommendations for Ecology to consider in further analysis of Criteria 3, including requests for Ecology to:

- Evaluate and consider GHG emissions-reductions as a result of the investments made from CCA.
- Consider how emissions-reduction commitments and timelines vary or align across jurisdictions and how adjustments will be made over time.
- Consider the impacts of linkage on the potential for Washington to independently develop or direct revisions to existing offsets protocols.
- Consider raising the percentage limitation on offset usage to be consistent with California.
- Evaluate whether the aggregate number of unused allowances in a linked program would reduce the stringency of Washington's program and ability to achieve its emissions-reduction commitments.

### 3.3 Criteria 4

**Criteria 4:** *Ensure that linking markets would reduce the cost of compliance for covered businesses.*

Linking markets with California and Québec is largely seen as a positive for reducing costs and providing uniformity in the allowance market. Commenters across sectors noted that linkage would likely result in a more stable market and reduced cost of compliance for covered businesses. Many commenters representing businesses and industry are seeking stability in the market and hope that can be achieved through expedient linkage. A more stable market is seen as benefiting covered businesses and the end consumer. Commenters noted that a larger, simplified market through linkage would provide market and allowance price uniformity and stability, which would reduce the administrative burden and cost on businesses. Commenters shared that linkage may further reduce the need for duplicative market research and due diligence efforts if combined into a single market. Commenters noted that linkage may reduce the cost of achieving Washington's climate goals and broadens Washington's influence in advancing climate policy beyond its borders.

While the feedback on Criteria 4 was largely noting that linkage would reduce the cost of compliance for covered businesses, some commenters noted concern that linking would not reduce GHG emissions or reduce costs to consumers and businesses.

Commenters noted concerns that reduced allowance costs could reduce the amount of funding available for investment in Washington.

## Considerations

Commenters shared considerations for Ecology in further analysis of Criteria 4. Commenters are suggesting that Ecology:

- Evaluate and consider the cost of compliance and cost effectiveness in a linked market.
- Continue to evaluate the benefits of linkage, including to covered business, overburdened communities, and Washington State.
- Understand the potential administrative impacts of linking on covered entities.

## 3.4 General Feedback

Many of the public comments provided to Ecology addressed more than one criterion or extended beyond the criteria to evaluate linkage outlined in the CCA. A few of those comment themes are highlighted here:

- Some commenters were concerned about the California Air Resource Board's (CARB) authority to continue the California cap-and-trade program after 2030. They were concerned that uncertainty in the California market past 2030 would lead to dumping of allowances into the smaller Washington and Québec markets. Other commenters framed the uncertainty about CARB authority after 2030 as an opportunity to encourage urgency in linking.
- Commenters noted that linking may prevent double counting of emissions, for those emitters that must comply with two separate markets for the same GHG emissions.
- Some commenters felt that instead of full linkage, Ecology should explore partial linkage to restrict the number of allowances from the joint California-Québec carbon market that businesses could use for compliance in Washington.
- Some commenters requested that Ecology delay linking to allow Washington's market to mature.
- Across all criteria, commenters noted concerns on the impact linkage will have on overburdened communities, and the need to preserve the original intent of the CCA to reduce emissions.

## Considerations

Beyond the specific considerations commenters offered for each of the criteria, there were recommendations that Ecology should:

- Consider confirming that the California cap-and-trade program will have necessary authority past 2030 before linking.
- Engage further on linkage with community members, businesses, and covered entities.
- Understand the impact of excess allowances and to ensure a consistent price for carbon.
- Confirm what will serve as authority and/or oversight for addressing conflict, questions, and issues as they arise. How will adjustments to the program be made?
- Understand how a linked market would operate (including oversight for emissions-reductions) and how costs will be held consistent across jurisdictions.

## 4 Next Steps

Ecology will use the results from this public engagement process, in addition to the feedback garnered through the tribal engagement process and the feedback from the Environmental Justice Council, to inform the analysis of the linkage criteria outlined in the CCA and the preliminary decision on whether to pursue linkage. In summer or fall 2023, Ecology will issue a report covering initial analysis of the linkage criteria. Ecology expects to announce a preliminary decision on linkage in fall 2023, likely in October.

If Washington, California, and Québec all decide to pursue linkage, there will be several further opportunities for public input before finalizing a linkage agreement. We expect additional opportunities for public input in 2024 or later.<sup>7</sup>

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<sup>7</sup> *Cap-and-Invest Linkage webpage (2023). Washington State Department of Ecology.*  
<https://ecology.wa.gov/Air-Climate/Climate-Commitment-Act/Cap-and-invest/linkage>

# 5 Appendix A: Survey Questions



## Cap-and-Invest Linkage Online Survey

We want to hear your input on whether you think connecting to other carbon markets would be beneficial to Washington. We will use your input to inform our analysis of the linkage criteria laid out in the [Climate Commitment Act \(CCA\)](#) and the decision on whether to pursue linkage.

You can share your thoughts through this survey, by joining an online listening session, or emailing or calling us. This is a complex topic, so we encourage you to take your time reviewing these questions and the information on the [cap-and-invest linkage webpage](#) before completing the survey. The linkage webpage explains potential impacts of linking.

When taking the survey, you have the option to skip questions, but be sure to click “submit comments” at the end of the survey to share your feedback with Ecology. You can also come back and finish the survey later (to finish later, you must use the same device and web browser you used to start the survey on because a cookie that remembers your previous survey responses is stored in your browser).

Take the Survey at <https://www.surveymonkey.com/r/CCAlinkagesurvey>.

Please complete this survey by 11:59 pm Pacific on May 15, 2023.

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### Background

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Established by the Climate Commitment Act (CCA) in 2021, Washington’s cap-and-invest program is a comprehensive, market-based program to reduce carbon pollution and achieve the greenhouse gas limits set in state law.

Washington’s cap-and-invest program is only the second of its kind in the United States. The first U.S. program began in California in 2013, at the same time a similar program

was started in Québec, Canada. Given their similar structure and goals, it was determined that "linking" the two carbon markets could yield important benefits by reducing carbon emissions and increasing program stability. California and Québec connected their programs in 2014, creating one shared carbon market.

Now, Washington is starting the process of determining whether linking our carbon market with these other jurisdictions would be beneficial. A linked cap-and-invest program would mean that Washington would have joint allowance<sup>8</sup> auctions with California and Québec, and all three jurisdictions would share a common allowance price. Market participants could also trade allowances across jurisdictions — meaning allowances issued by the other two programs could be used by Washington businesses, and vice versa.

The Climate Commitment Act directs us to actively consider linking Washington's cap-and-invest program with other carbon markets and requires that our state's program be built in such a way that linking would be as seamless as possible. However, the law also requires us to review specific criteria to ensure linkage would benefit our state's communities, economy, and climate goals.

Ecology will decide whether to pursue linking in summer 2023 or later. California and Québec would need to undergo their own processes to decide whether to link, and then all three programs might need to revise some regulations, so linkage would not be implemented until at least 2025.

Resources to learn more about the cap-and-invest program and linkage before completing the survey:

- [Cap-and-invest linkage webpage](#)
- [Overview of cap-and-invest program](#)

For additional background:

- Climate Commitment Act: [Chapter 70A.65 RCW](#). Criteria for linking are in [RCW 70A.65.060\(3\)](#) and [RCW 70A.65.210\(3\)](#).
- Current [linkage agreement between California and Québec](#)
- Climate Commitment Act Program Rule: [Chapter 173-446 WAC](#)
- [Summary](#) of market modeling and analysis of the proposed Cap-and-Invest Program Rule

**Next steps:** We will use your input to inform our analysis of the [linkage criteria](#) laid out in the CCA and the decision on whether to pursue linkage, expected in summer 2023. If we decide to pursue linking, there will be an opportunity to provide input on the draft linkage agreement before Ecology approves it (sometime in 2024 or later).

Ecology plans to share a summary of comments we receive (without personal information) through a report on our website. Ecology will not respond individually to comments.

You can sign up for [Climate Commitment Act email alerts](#) to stay up to date on our work.

Please complete this survey by 11:59 pm pacific on May 15, 2023.

*All information, including personal or contact, submitted through this survey are public records and subject to disclosure as per the Washington State Public Records Act, RCW 42.56.*

To request an ADA accommodation, contact Ecology by phone at 360-407-6800 or email at [melanie.forster@ecy.wa.gov](mailto:melanie.forster@ecy.wa.gov), or visit <https://ecology.wa.gov/accessibility>. For Relay Service or TTY call 711 or 877-833-6341.

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### Survey Questions

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#### Participant information

1. Name (required)
2. Email address (required)
3. Organization or entity you represent (optional)
4. Type of organization/entity (optional)
  - Tribal government
  - Environmental organization
  - Environmental justice organization
  - Business / industry
  - Community group
  - State or local government
  - Individual
  - Other (please specify)

#### Overall comments on linking

5. What thoughts or comments do you have about how linking may impact you or your community?
6. What input would you like to share to inform whether Ecology pursues linking carbon markets with California and Québec?

#### Linkage criteria

Ecology is required to evaluate specific aspects of linkage (RCW 70A.65.060(3) and RCW 70A.65.210(3)) before linking carbon markets with other jurisdictions. The next set of questions asks for your input on how Ecology should evaluate four criteria, and your answers will inform Ecology's analysis.

## Linkage Criteria #1

**Ensure that California and Québec have provisions to ensure their programs provide benefits to vulnerable populations and overburdened communities.**

Section of the Climate Commitment Act: 70A.65.210(3)(b) How is Ecology currently planning to evaluate this criteria? Ecology's initial proposal for evaluating this criteria includes:

- Looking at what policies California and Québec have to ensure that their cap-and-trade programs provide benefits to vulnerable populations and overburdened communities.
  - Reviewing the types of projects and programs that have been funded with cap-and-trade revenue in California and Québec.
7. What do you think Ecology should consider when evaluating this criteria? In addition to looking at how California and Québec spend cap-and-trade revenues, with other types of program benefits should Ecology include in our analysis?
  8. What are your thoughts or comments on how linking may affect highly impacted communities, which includes communities on Tribal lands? What potential negative effects should Ecology include in our analysis?

## Linkage Criteria #2

**Ensure that linking would not have an overall negative effect on highly impacted communities in Washington, California, or Québec.**

Section of the Climate Commitment Act: 70A.65.210(3)(c) How is Ecology currently planning to evaluate this criteria? Ecology's initial proposal for evaluating this criteria includes:

- Reviewing existing research on the impacts of cap-and-trade programs on highly impacted communities in California and Québec.
  - Reviewing the [CCA](#), the [HEAL Act](#), and other environmental regulations for policies that would assess and mitigate negative effects on [highly impacted communities](#) in Washington.
9. What are your thoughts or comments on how linking may affect highly impacted communities, which includes communities on Tribal lands?
  10. What are your suggestions for how to reduce potential negative effects of linking on highly impacted communities?
  11. What do you think Ecology should consider when evaluating this criteria?
  12. Do you have recommended informational resources (reports, websites, research studies, etc.) that could inform our analysis of this criteria? Please provide links to the resources you mentioned or upload them into this folder.

### Linkage Criteria #3

**Ensure that linking markets would not impact Washington’s ability to achieve its greenhouse gas emissions reduction limits, including an analysis of pre-2020 unused allowances in a linked program.**

Section of the Climate Commitment Act: 70A.65.210(3) and 70A.65.210(3)(d)

An "allowance" means a business is allowed to emit up to one metric ton of carbon dioxide equivalent. Allowances can be purchased from Ecology, traded, or saved for future use.

“Unused allowances” are allowances that businesses in the joint California-Québec market currently have because they have not used them for compliance. They may be saving them to use for future compliance obligations or to sell on the secondary market to generate revenue. If Washington links markets with California and Québec, businesses in those jurisdictions could start selling their unused allowances to Washington businesses or using them for compliance in Washington if they also have facilities here.

#### **How is Ecology currently planning to evaluate this criteria?**

Ecology’s initial proposal for evaluating this criteria includes:

- Reviewing the policies in the CCA and related regulations that allow Ecology to adjust the number of allowances offered each year based on whether the cap-and-invest program is meeting its goals.
- Reviewing existing analysis on the allowance supply in the California-Québec market.

13. What do you think Ecology should consider when evaluating this criteria?

14. Do you have recommended informational resources (reports, websites, research studies, etc.) that could inform our analysis of this criteria? Please provide links to the resources you mentioned or upload them into this folder.

### Linkage Criteria #4

**Ensure that linking markets would reduce the cost of compliance for covered businesses.**

Section of the Climate Commitment Act: 70A.65.060(3)

To comply with the program, participating emitters must periodically submit "compliance instruments" equal to their covered emissions. There are two types of compliance instruments, each equal to one metric ton of carbon dioxide:

- Emissions allowances that Ecology issues.
- Offset credits gained from investing in projects that help reduce carbon in the atmosphere.

### **How is Ecology currently planning to evaluate this criteria?**

In 2022, Ecology commissioned an independent economic analysis of the cap-and-invest program that showed estimated allowance prices under different scenarios. In that report, the “linked” scenario was estimated to have lower allowance prices because prices were expected to align with the allowance prices in the joint California – Québec market. We intend to use this report in our analysis of this criteria.

15. What do you think Ecology should consider when evaluating this criteria?
16. Do you have recommended informational resources (reports, websites, research studies, etc.) that could inform our analysis of this criteria? Please provide links to the resources you mentioned or upload them into this folder.

### **Any other comments?**

17. Do you have recommendations of organizations or individuals Ecology should talk to about cap-and- invest linkage?
18. What information and resources would you like Ecology to provide about linkage?
19. Do you have other input you would like to share?

### **Thank you for sharing your comments.**

We know that engaging in this work takes time, and we are grateful for your help. This survey is part of a broader effort to seek public input on the potential linkage of Washington’s carbon market. You can learn more about other opportunities for input on our website.

We plan to issue a report detailing our analysis of the linking criteria, as well as a summary of the feedback we received during our exploratory process. After gathering and considering input, Ecology will decide whether to pursue linkage. We expect to announce a decision for Washington in late summer 2023.

If you have questions, contact Stephanie Potts at [CCAlinkage@ecy.wa.gov](mailto:CCAlinkage@ecy.wa.gov) or 425-466-5358. You can sign up for [Climate Commitment Act email alerts](#) to stay up to date on our work.

## Appendix D: Summary of Public Comments Received October 2023 – December 2025

Ecology began exploring linkage in January 2023 by reaching out to Tribal governments, the Environmental Justice Council, and the public to gather input. Ecology contracted with Cascadia Consulting Group (Cascadia) from February through June 2023 to support public engagement and develop a high-level summary of public comments. That summary report is detailed in Appendix C and highlights common themes from the comments received during the public engagement process between Jan. 31 and May 15, 2023.

Since May 2023, Ecology has continued engagement with interested parties and the broader public. During this time, Ecology offered several opportunities to provide input on linkage and related topics including Tribal forums, Environmental Justice Council meetings, and public comment periods. The ongoing periods of engagement occurred over the following phases:

- Linkage exploratory phase (January – May 2023) - included in Appendix C
- Agency request legislation (May 2023 – March 2024)
- Cap-and-Invest Program Updates and Linkage rulemaking (April 2024 – ongoing)
- Early engagement for linkage agreement (November 2024 – March 2025)
- Environmental Justice Assessment (June 2024 – May 2026)

This summary report highlights common themes from the comments received during the public engagement processes from October 2023 through December 2025. It is not a comprehensive or detailed summary of that public input, due to the breadth and depth of topics covered, however, all public comment letters received are publicly available.<sup>1</sup>

Comments during the agency request legislation and rulemaking comment periods informed policy development for those processes. Ecology is using the input we received throughout the multiple comment periods to inform analysis of the linkage criteria laid out in the CCA and the Director’s decision on whether to link with California and Québec.

### Public engagement methods

Ecology used a variety of methods to solicit input on linking Washington’s Cap-and-Invest Program with the joint California-Québec carbon market. These included:

- Tribal forums (online), invitations for Government-to-Government consultation, and emails and phone calls to Tribal governments
- Community forums<sup>2</sup> (online)

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<sup>1</sup> Links to comment letters are included below, under each engagement period.

<sup>2</sup> Community forums are intended to provide a space for community members and community groups to learn about the program, ask questions, and provide feedback. We provide more background information and focus conversations on potential impacts to communities rather than market participants.

- Public meetings (online)
- Comment periods
- Surveys
- Email announcements
- Emails and phone calls to specific groups to gather input to inform the Environmental Justice Assessment

Ecology began public engagement in January 2023 and will continue engagement until we finalize a linkage agreement and make a decision on whether to link. Below is an overview of our outreach to community groups, environmental organizations, Cap-and-Invest market participants, and other interested parties for the phases of the linkage process that occurred after the exploratory phase: Agency request legislation, Rulemaking, Early engagement for linkage agreement, and the Environmental Justice Assessment.

### Agency request legislation (May 2023 – March 2024)

The primary purpose of the agency request legislation was to align certain aspects of the Washington Cap-and-Invest Program with the California-Québec carbon market.<sup>3</sup> Ecology's public engagement to develop the agency request legislation and related [Environmental Justice Assessment](#) included:

- Two Environmental Justice Assessment online forums (Oct. 25 and Oct. 26, 2023)
- Two online question and answer sessions (Nov. 13 and Nov. 16, 2023)
- Public email announcements
- Emails and phone calls to 30+ environmental justice and community-based organizations
- Comment period (Oct. – Dec. 31, 2023) - Comments on the draft bill submitted through Ecology's online SmartComments system are available at: [Cap-and-Invest Bill](#) and [Cap-and-Invest Program update](#)

### Rulemaking (ongoing since April 2024)

In April 2024, following passage of agency request legislation, Ecology began a rulemaking process to amend certain provisions in the Cap-and-Invest Program rules necessary for linkage. To date we have held numerous public meetings and informal comment periods for the rulemaking. Visit the [Cap-and-Invest Program Updates and Linkage rulemaking webpage](#) to read the comments we received and watch recordings of public meeting.

There were instances during the rulemaking public engagement when interested parties provided comments that went beyond the scope of the potential rule change and were more

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<sup>3</sup> SB 6058 Washington State Legislature. 2023-24. Facilitating linkage of Washington's carbon market with the California-Québec carbon market. <https://lawfilesexternal.wa.gov/biennium/2023-24/Pdf/Bills/Session%20Laws/Senate/6058-S2.SL.pdf?q=20260413142926>.

related to linkage generally. Where that was the case, Ecology summarized the themes from those comments in this document.

### **Early engagement for linkage agreement (November 2024 – March 2025)**

The purpose of this engagement period was to gather input on what Ecology should consider when developing a draft linkage agreement. A linkage agreement sets expectations for information sharing, cooperation, and accounting. The agreement is non-binding, it does not create new regulations or change existing ones. We sought feedback on the current linkage agreement between California and Québec, which was the starting point for developing an agreement that includes Washington. Engagement for this period included:

- Two online public meetings (Feb. 27 and March 5, 2025)
- Public email announcements sharing meeting and comment period information
- Emails and phone calls to environmental organizations and community-based organizations
- Comment period (Nov. 21, 2024 through March. 31, 2025) – [Comments on linkage agreement](#)

Ecology also held community forums on environmental justice issues on July 22, 2024 and Aug. 13, 2025. During those public engagement opportunities, participants could share overall thoughts on linkage or specific recommendations related to the linkage criteria.

### **Summary of comments: October 2023 – December 2025**

Ecology received a robust set of comments during the public comment periods. Commenters shared detailed and technical thoughts and questions on a wide range of topics through comment letters.

Commenters represented a variety of interests: businesses covered by the Cap-and-Invest Program, including industry, energy and utility providers, and trade organizations that represent them; environmental justice organizations; environmental organizations; government entities; academic and research institutions; and individuals.

The following represents a summary of comments received, as sorted by the following thematic areas:

- Environmental justice and overburdened community impacts
- Tribal sovereignty, rights, and benefits
- Auction revenue and investment priorities
- Impact on greenhouse gas emissions
- Timing, sequencing, and whether to delay linkage
- Offset use, integrity, and geographic equity
- Market stability and cost containment
- Consumer and ratepayer cost impacts

- Governance, transparency, and oversight
- Alignment with California–Québec rules
- Biofuels, renewable natural gas, and lifecycle emissions

### **Environmental justice & overburdened community impacts<sup>4</sup>**

Includes focus on:

- Disproportionate air quality and co-pollutant impacts to overburdened communities
- Cumulative pollution burdens
- Reduced revenue for investments that benefit overburdened communities and Tribes
- Risk of weakening existing Washington environmental justice safeguards
- Recommended proactive consultation with Tribes and transparent public engagement processes with overburdened communities
- Sequencing linkage with air quality and other Cap-and Invest Program policy decisions, including facility-specific emissions caps

Typical positions:

- Oppose linkage
- Support only with strong preconditions and enforceable protections

Example commenters:

- Environmental justice organizations
- Environmental advocacy organizations
- Individual commenters

### **Tribal sovereignty, rights, and benefits**

Includes focus on:

- Government-to-Government consultation
- Protection of Tribal sovereignty
- Access to carbon markets and offset eligibility
- Revenue support for Tribal programs and restoration

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<sup>4</sup> Climate Commitment Act RCW 70A.65.010(54): “Overburdened community means a geographic area where vulnerable populations face combined, multiple environmental harms and health impacts or risks due to exposure to environmental pollutants or contaminants through multiple pathways, which may result in significant disparate adverse health outcomes or effects...”

Typical positions:

- Oppose linkage as proposed
- Require explicit Tribal safeguards, consultation, and benefits

Example commenters:

- Tribal governments
- Washington advocacy organizations

### **Auction revenue and investment priorities**

Includes focus on:

- Potential Cap-and-Invest auction revenue reductions from lower allowance prices in a linked market
- Level of investment in overburdened and Tribal communities
- Rural, agricultural, and habitat restoration funding
- Workforce development and apprenticeships

Typical positions:

- Strong emphasis on directing revenues toward equity, health, and local benefits

Example commenters:

- Tribal Nations
- State agencies
- Policy organizations
- Individual commenters

### **Impact on greenhouse gas emissions**

Includes focus on:

- Limiting or expiring banked and pre-linkage allowances to protect environmental justice and program integrity
- Wait to link until further development of greenhouse gas emissions limit frameworks
- Maximizing potential regional greenhouse gas reductions through linkage while carefully managing allowance use, banking, and program alignment
- Active an Emissions Containment Reserve trigger price<sup>5</sup>

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<sup>5</sup> One of the features of the ECR is a trigger price. The ECR trigger price is suspended in Washington because California and Québec do not have an ECR trigger price and it is a feature that needs to be aligned across linked jurisdictions. If an ECR trigger price were in effect for a given auction, it would function as a soft price floor by

Typical positions:

- Support linkage to improve regional greenhouse outcomes
- Recommending limits on banked/pre-linkage allowances
- Wait to link to first prioritize in-state emissions reductions and protect environmental justice

Example commenters:

- Tribal Nations
- Environmental justice organizations
- Utilities and market participants

### Timing, sequencing, and whether to delay linkage

Includes focus on:

- Insufficient analysis or modeling of linkage impacts, including modeling of allowance prices, emissions outcomes, offset usage, revenue effects, and distributional impacts on overburdened communities and Tribes
- To complete the Environmental Justice Assessment and share a draft with the public
- Legislative extension of the California Cap-and-Invest Program past 2030
- Sequencing linkage with air quality and other Cap-and Invest Program policy or rulemaking decisions, including the Air Quality in Overburdened Communities rule

Typical positions:

- Recommend delaying
- Recommend phasing linkage until after conditions are met

Example commenters:

- Tribal Nations
- Environmental justice organizations
- Environmental advocacy organizations
- Individual commenters

### Offset use, integrity, and geographic equity

Includes focus on:

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reducing the quantity of allowances available for sale at that auction. Bids submitted below the ECR trigger price are still allowed to be entered by bidders, but the auction system automatically withholds a number of allowances from the auction supply whenever the final clearing price would otherwise fall below the ECR trigger price. Withholding these allowances reduces supply until the effective clearing price rises to at least the ECR trigger price level. Washington cannot put an ECR trigger price into effect in a linked market unless the other jurisdictions do as well.

- Limits on use of offset credits
- Limits on the geographic origin of offset credits
- Offset use in or affecting overburdened communities
- Forestry, livestock, and carbon dioxide removal offset quality
- Tribal and in-state offset eligibility
- Use of offset credits from linked jurisdictions

Typical positions:

- Environmental justice groups favor stricter limits on the use of offsets
- Market participants favor expanded use of offset credits and alignment with California–Québec rules so that offsets approved in those jurisdictions can be used for Washington compliance

Example commenters:

- Tribal Nations
- Environmental justice organizations
- Environmental advocacy organizations
- Policy organizations
- State agencies

### **Market stability and cost containment**

Includes focus on:

- Allowance price volatility and predictability
- Allowance Price Containment Reserve (APCR) structure, triggers, and distribution
- Retaining allowance banking with safeguards to reduce volatility and establishing contingency plans for potential linkage disruptions including legal or operational challenges

Typical positions:

- Strongly support linkage
- Recommend technical refinements to improve market stability

Example commenters:

- Covered entities
- General market participants
- Utilities

### **Consumer and ratepayer cost impacts**

Includes focus on:

- Fuel and electricity price impacts including changes in retail fuel prices, utility rates, and bill increases resulting from allowance costs and market dynamics
- Businesses passing on costs to consumers and transparency, including how covered entities recover compliance costs from customers, any carbon-related charges, and how allowance costs and revenues are reflected in consumer bills
- Affordability and cumulative cost impacts, including the layering of carbon compliance costs and related charges on consumer energy bills and the disproportionate burden on low-income households and small businesses

Typical positions:

- If linkage occurs, then the program should be paired with strong cost-mitigation and oversight measures, such as cost containment tools, transparency requirements, and alignment with linked markets, to reduce price volatility and limit consumer cost impacts

Example commenters:

- Investor-owned utilities and public utility districts
- Individual commenters

### **Governance, transparency, and oversight**

Includes focus on:

- Rulemaking authority and flexibility
- Public disclosure and reporting
- Monitoring and conducting oversight of the program performance
- Adding explicit mechanisms for Washington to pause, suspend, or withdraw from the linkage agreement, if unattended consequences arise
- Protection of Washington sovereignty

Typical positions:

- Support for clearer governance, transparency, and accountability mechanisms

Example commenters:

- Policy advocacy organizations
- Covered entities
- Petroleum industry trade association
- Individual commenters

### **Alignment with California–Québec rules**

Includes focus on:

- Compliance periods and auction frequency
- Allowance purchase and holding limits
- Biofuel definitions and exemptions
- APCR methodology and enforcement penalties

Typical positions:

- Strong support for alignment to ensure fairness and successful linkage

Example commenters:

- Environmental advocacy organizations
- Trade associations
- Energy producers and operators

### **Biofuels, renewable natural gas, and lifecycle emissions**

Includes focus on:

- Concerns about the lifecycle carbon intensity and land-use impacts of biofuels and renewable natural gas
- Treatment of manure-based fuels and renewable natural gas
- Consistency with the Clean Fuel Standard
- Tracking systems and verification methods

Typical positions:

- Industry commenters support broader eligibility of biofuels and renewable natural gas pathways for compliance
- Environmental justice and environmental groups urge caution and stronger lifecycle accounting before expanding eligibility

Example commenters:

- Community organizations
- Biofuel associations
- Individual commentators

# **Appendix E: Washington Cap-and-Invest Linkage Criteria Qualitative Analysis from Western Washington University**

This report was prepared for the Washington Department of Ecology through a contract with Western Washington University. The data and findings in this report do not represent the official positions of Ecology, the California Air Resources Board, or the Québec Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs.

# Washington Cap-and-Invest Linkage Criteria Qualitative Analysis

*Prepared for the Washington Department of Ecology*

**April 6, 2026**

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**CENTER FOR  
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***This report was prepared by Western Washington University’s Center for Business and Economic Research under a contract with Washington Department of Ecology to support evaluation of the statutory linkage criteria.***

## Background

The Climate Commitment Act (CCA) directs the Washington Department of Ecology (Ecology) to “consider opportunities to implement the [greenhouse gas emissions Cap-and-Invest] program in a manner that allows linking the state's program with those of other jurisdictions”<sup>1</sup> and to “seek to enter into linkage agreements with other jurisdictions with external greenhouse gas emissions trading programs.”<sup>2</sup> The CCA specifies criteria that Ecology must use to determine whether to link (referred to in this document as “linkage criteria”) and gives Ecology authority to enter into linkage agreements.<sup>3</sup>

This report builds on a prior report by Ecology<sup>4</sup> published in October 2023 regarding the criteria for Washington to link with other Emissions Trading Systems (ETS), and reflects updated data along with an additional literature review. This report does not include modeling and analysis completed by University of California.

## Washington’s Cap-and-Invest Program

Washington is required to reduce greenhouse gas (GHG) emissions statewide, compared to 1990 levels, by 45% by 2030, 70% by 2040, and 95% by 2050.<sup>5</sup> In 2021, the Washington State Legislature passed the Climate Commitment Act (CCA) creating the Cap-and-Invest Program, a comprehensive and economy-wide market-based program designed to help Washington achieve those emissions reductions.

Cap-and-Invest is just one tool used by the state to help decrease greenhouse gas (GHG) emissions and address the climate emergency facing Washington. Throughout this report, “emissions” will refer to GHG emissions, unless otherwise specified.<sup>6</sup> Cap-and-Invest works in tandem with several programs, including the Clean Fuel Standard, Clean Energy Transformation Act, and the Building Performance Standards.<sup>7</sup> The Cap-and-Invest Program seeks to help minimize continued GHG emissions that may worsen climate

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<sup>1</sup> RCW 70A.65.060(3)

<sup>2</sup> RCW 70A.65.210(1)

<sup>3</sup> RCW 70A.65.210

<sup>4</sup> [Cap-and-Invest Linkage Criteria: Preliminary Analysis Report](#)

<sup>5</sup> RCW 70A.45.020

<sup>6</sup> Other emissions referenced in this report include co-pollutant emissions such as: PM2.5, Volatile Organic Compounds (VOCs), or Sulfur Dioxide (SO<sub>2</sub>). While not classified as a [greenhouse gas by the EPA](#), these emissions can have negative impacts on human health, which is discussed in a later section of this report.

<sup>7</sup> [The Big Seven: Washington’s biggest climate policies | Climate](#)

change and the negative impacts Washingtonians already experience. Over time and as severe weather conditions increase due to climate change, Washington faces risks of increased flooding, drought, wildfires, and heat waves.

According to RCW 70A.65.010, the term “linkage” refers to “a bilateral or multilateral decision under a linkage agreement between greenhouse gas market programs to accept compliance instruments issued by a participating jurisdiction to meet the obligations of regulated entities in a partner jurisdiction and to otherwise coordinate activities to facilitate operation of a joint market.”<sup>8</sup> Linking with other ETS, such as the California Cap-and-Invest Program and Québec Cap-and-Trade Program, may improve the durability and long-term stability of Washington’s Program<sup>9</sup>, as well as introduce additional opportunities for covered entities to meet their compliance obligations in a cost-effective manner. A linked ETS with long-term authorization is also likely to improve the perceptions about long-term durability of the Program.

“Covered emissions” are “the emissions for which a covered entity has a compliance obligation under RCW 70A.65.080”<sup>10</sup>. The Cap-and-Invest Program generally covers businesses and entities that generate covered emissions exceeding 25,000 metric tons of carbon dioxide equivalent per year, including fuel suppliers (including natural gas, propane, and fuels used in transportation), manufacturing, in-state electricity generation, electricity imports, waste-to-energy facilities (starting in 2027), and railroad companies (starting in the third compliance period). Under the Program, covered entities must obtain allowances equivalent to their covered emissions (called their compliance obligations). Each allowance allows for one ton of GHG emissions. The Cap-and-Invest Program provides flexibility in how covered entities comply. They may decide whether to invest in decreasing their GHG emissions or purchase allowances from a supply that falls over time.

Some entities, such as emissions-intensive, trade-exposed industries (EITEs), receive a certain number of no-cost allowances as specified in [RCW 70A.65.110](#). Electric utilities and natural gas utilities also receive no-cost allowances as directed by requirements of the Climate Commitment Act, and are covered under [RCW 70A.65.120](#) and [RCW 70A.65.130](#) respectively. Most covered entities obtain allowances by participating in quarterly auctions held by Ecology or purchasing allowances from other Program participants on the secondary market. A small portion of their compliance obligation can be covered using

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<sup>8</sup> RCW 70A.65.010

<sup>9</sup> Cap-and-Invest Program, plainly referred to as Washington’s Program or Program throughout the report

<sup>10</sup> RCW 70A.65.010

“offset credits”<sup>11</sup> issued for qualifying projects. Allowances and offset credits are referred to as “compliance instruments”.

The Washington Cap-and-Invest Program currently operates as a standalone program. When California and Québec’s carbon markets were initially created, both operated as standalone markets for one year. However, in 2014, the programs linked creating a shared carbon market. In a linked market, covered entities can use allowances issued by any of the linked jurisdictions for compliance. There are joint allowance auctions and a common allowance price across all jurisdictions. Washington’s Program was designed to be compatible with the existing California and Québec Programs based on the CCA directive to “consider opportunities to implement the program in a manner that allows linking the state's program with those of other jurisdictions.”<sup>12</sup>

Ecology has prioritized exploring linkage due to potential benefits, including but not limited to reduced price volatility, increased market stability, and more sustainable market conditions to ensure the longevity of the Program. Further information about the Cap-and-Invest Program can be found on Ecology’s website,<sup>13</sup> or in the preliminary report.<sup>14</sup>

The Legislature invests funding derived from auction revenues<sup>15</sup> in initiatives and projects to reduce GHG emissions across Washington’s economy, with a particular focus on the transportation sector – the biggest source of emissions in the state. Auction revenue is also required to go to programs designed to help communities adapt to the impact of a rapidly changing climate, promote green energy, and address issues of air-related health inequity in communities that have historically been disproportionately impacted by pollution. In addition, the law requires that at least 35%, with a goal of 40%, of all auction revenue be spent on projects that provide “direct and meaningful benefits” to vulnerable populations within overburdened communities, and that an additional 10% be spent on projects supported by Tribes.<sup>16</sup>

This report is current through January 2026. Any content contained in this report is subject to change upon updates to the statutes and regulations governing the Washington,

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<sup>11</sup> Offset credits are an alternative to allowances, but they can only be used for up to 8% of a company’s emissions. Offset credits fund a project that reduces or removes GHGs somewhere else, as an alternative to purchasing allowances or reducing emissions.

<sup>12</sup> RCW 70A.65.060(3)

<sup>13</sup> [Cap-and-Invest - Washington State Department of Ecology](#)

<sup>14</sup> [Cap-and-Invest Linkage Criteria: Preliminary Analysis Report](#)

<sup>15</sup> Auction revenues from allowances consigned to auction by electric and gas utilities are to be used by those utilities for the benefit of ratepayers. RCW 70A.65.120(4).

<sup>16</sup> RCW 70A.65.230

California, and Québec Programs. California has released proposed amendments to their Program regulations in January 2026, which are included in the analysis in this report.

## Benefits to overburdened communities of California and Québec

This section seeks to identify provisions California and Québec have in place to ensure the distribution of benefits from their Cap-and-Invest and Cap-and-Trade Programs to vulnerable populations and overburdened communities. This work builds on Section 3.4 and Appendix B of the preliminary analysis conducted by Ecology.<sup>17</sup> In Washington, the terminology used includes *overburdened communities* and *vulnerable populations*, or *highly impacted communities*. California uses the terminology *disadvantaged communities* (DAC), as well as *low-income communities and households*. Québec uses the *Material and Social Deprivation Index (MSDI)* to identify vulnerable populations, as well as *northern communities*.<sup>18</sup> These terms and the communities they represent were identified by Ecology as analogous to Washington’s vulnerable populations and overburdened communities. We will use the term “overburdened communities” throughout this report to collectively refer to the communities and populations mentioned above (see Table 1 and Table 2).

The Washington Legislature determines how to spend CCA revenues. As discussed in the previous section, auction revenue is required to go towards programs designed to help communities adapt to climate change, promote green energy, and address air-related health inequity in overburdened communities. Overburdened communities are geographic areas where vulnerable populations face combined, multiple environmental harms and health impacts.<sup>19</sup> The following sections include information on the programs California and Québec use to help overburdened communities through funds from their ETS.

Below, Table 1 establishes the definitions used in Washington to define vulnerable populations and overburdened communities. These definitions serve as a reference point for discussing the California and Québec programs.

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<sup>17</sup> [Cap-and-Invest Linkage Criteria: Preliminary Analysis Report](#), beginning on page 72.

<sup>18</sup> The North Québec territory extends north of the 49<sup>th</sup> parallel and north of the St. Lawrence Rive and the Gulf of St. Lawrence. The territory makes up 1.5% of Québec’s population. Of the 130,000 inhabitants, Aboriginal peoples account for nearly a third of the population.

<sup>19</sup> [Identifying overburdened communities for HEAL & CCA investments | Office of Financial Management](#)

Table 1: Washington Overburdened Communities Definitions

## Washington Vulnerable Populations and Overburdened Communities Definitions

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"**Vulnerable populations** means population groups that are more likely to be at higher risk for poor health outcomes in response to environmental harms, due to:

- (i) Adverse socioeconomic factors, such as unemployment, high housing and transportation costs relative to income, limited access to nutritious food and adequate health care, linguistic isolation, and other factors that negatively affect health outcomes and increase vulnerability to the effects of environmental harms; and
- (ii) sensitivity factors, such as low birth weight and higher rates of hospitalization.<sup>20</sup>

(b) "Vulnerable populations" includes, but is not limited to:

- (i) Racial or ethnic minorities;
- (ii) Low-income populations;
- (iii) Populations disproportionately impacted by environmental harms; and
- (iv) Populations of workers experiencing environmental harms."<sup>21</sup>

"**Highly Impacted Communities** include any census tracts with a 9 or 10 overall rank on the Environmental Health Disparities map, or any census tract with Tribal lands."<sup>22</sup>

"**Overburdened community** means a geographic area where vulnerable populations face combined, multiple environmental harms and health impacts or risks due to exposure to environmental pollutants or contaminants through multiple pathways, which may result in significant disparate adverse health outcomes or effects..."<sup>23</sup>

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## Benefits to California's Overburdened Communities

California primarily directs its auction revenue into the Greenhouse Gas Reduction Fund (GGRF). The California Legislature created a suite of legislation that establishes the statutory requirements for administering appropriations from the GGRF.<sup>24</sup> The State's portion of the funds are deposited into GGRF and distributed through California Climate Investments (CCI). The CCI is overseen by the California Air Resources Board (CARB), consisting of 117 programs administered by 27 agencies. The projects these funds are used for are available as a dashboard,<sup>25</sup> and a yearly legislative report<sup>26</sup> about the status of projects and the estimated reductions in GHG emissions. Remaining funds after GGRF continuing appropriations commitments are met are appropriated by the Legislature through the state budget.<sup>27</sup>

A pair of 2012 laws established guidelines on how the annual revenue is distributed. The two laws provide a framework for how California invests Cap-and-Invest revenue into local

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<sup>20</sup> Climate Commitment Act: [RCW 70A.65.010\(54\): Definitions. \(Effective until January 1, 2025.\)](#)

<sup>21</sup> Healthy Environment for All Act: [RCW 70A.02.010\(14\): Definitions.](#)

<sup>22</sup> [Clean Energy Transformation Act RCW 19.405.020\(23\); Washington Environmental Health Disparities Map](#)

<sup>23</sup> Climate Commitment Act [RCW 70A.65.010\(54\)](#)

<sup>24</sup> [California Climate Investments Legislative Guidance | California Air Resources Board](#)

<sup>25</sup> [Interactive Data Dashboard Highlights Impact — California Climate Investments](#)

<sup>26</sup> [Annual Reports \(2015 to Present\) — California Climate Investments](#)

<sup>27</sup> [California Climate Investments Funded Programs | California Air Resources Board](#)

projects. Assembly Bill (AB) 1532<sup>28</sup> requires that the auction revenue be spent for environmental purposes, with an emphasis on improving air quality. Senate Bill (SB) 535<sup>29</sup> requires that at least 25% of the revenue be spent on programs that benefit disadvantaged communities, which tend to suffer disproportionately from air pollution. In 2016, AB 1550<sup>30</sup> replaced and expanded those minimums to also include low-income communities and low-income households. A minimum of 25% of GGRF investments must be within and benefitting individuals in disadvantaged communities. An additional 5% of GGRF investments must be in projects that benefit low-income communities or households, and an additional 5% are in projects that benefit low-income communities or households within 0.5 miles of a disadvantaged community. Collectively, disadvantaged communities, low-income communities, and low-income households are referred to as “priority populations”.

In 2025, California Governor Gavin Newsom signed into law AB 1207<sup>31</sup> and SB 840<sup>32</sup>. AB 1207 extends the existing California Cap-and-Invest Program through 2045. AB 1207 also strengthens affordability measures within the Program; AB 1207 directs funds from sales at the price ceiling to the California Climate Mitigation Fund, which is newly created to provide household energy cost relief. The California Climate Credit, administered by the California Public Utilities Commission, provides credits to utility customers using auction proceeds, and AB 1207 directs these credits to be provided during high-bill months to support affordability. SB 840 created a new spending framework and oversight for the GGRF.

Each program funded with Cap-and-Invest revenue falls into one of 10 categories: agriculture, energy, nature-based solutions, planning and research, sustainable communities, technical assistance, transportation, waste diversion, water, or workforce development. The 2025 annual report on California’s Climate Investments<sup>33</sup> found that 73% of funding benefits priority populations. See Table 2 on the next pages for a comparison of California’s definition of priority populations and Washington’s definition of vulnerable populations and overburdened communities.

The California Climate Investment (CCI) portfolio provides a project-by-project breakdown of GGRF (Greenhouse Gas Reduction Fund) and non-GGRF spending. Between 2015 and November 30th, 2024, California has spent \$12.8 billion through the GGRF. In 2023,

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<sup>28</sup> [AB 1532 Assembly Bill - CHAPTERED](#)

<sup>29</sup> [SB 535 Senate Bill - CHAPTERED](#), [SB 535 Disadvantaged Communities - OEHHA](#)

<sup>30</sup> [AB 1550 Assembly Bill - AMENDED](#)

<sup>31</sup> <https://legiscan.com/CA/text/AB1207>

<sup>32</sup> <https://legiscan.com/CA/text/SB840/>

<sup>33</sup> [California Climate Investments 2025 Annual Report, Cap-and-Trade Auction Proceeds](#)

California began to implement a tag for projects that are “Tribal Affiliated”, making it easier to account for projects with Tribal involvement.

Programs like the Community Air Protection (CAP) Program<sup>34</sup> which is primarily funded by the proceeds from California’s Cap-and-Invest Program, work to help reduce air pollution emissions and exposures for overburdened communities. CAP similarly aims to reduce pollution exposures through monitoring and targeted efforts to reduce emissions in overburdened communities.

The Compliance Offset Program issues offset credits,<sup>35</sup> and has issued over 290 million offset credits. Of the 46 million offset credits issued in the past three years, 40% are from projects offering direct environmental benefits to California’s air or water quality. Additionally, 49 million of the total offset credits issued are for Tribal projects, and over 47 million are for Alaska Native Corporation projects.

The use of the CalEnviroScreen 4.0 to determine disadvantaged communities is similar to the use of the Washington Environmental Health Disparities map and/or EPA's EJScreen mapping tool when designating overburdened communities. Both approaches include factors like social and economic differences, historic redlining, health care access, and known health disparities.

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<sup>34</sup> [Making Progress in Communities | California Air Resources Board](#)

<sup>35</sup> Offset credits are tradable credits issued for qualifying projects that reduce or sequester greenhouse gases. These credits can be used to satisfy a small percentage of a covered entities compliance obligation. [Compliance Offset Program | California Air Resources Board](#)

Table 2: Comparison of California's Priority Populations to Comparable Communities or Definitions in Washington

Priority Populations in California	Comparable Communities or Definitions in Washington
<p><b>Priority populations</b> collectively refers to disadvantaged communities, low-income communities, and low-income households.<sup>36</sup> Each is defined as follows:</p>	<p>These terms are comparable to Washington’s <b>vulnerable populations</b> and <b>overburdened communities</b> definitions under the Climate Commitment Act, as shown in Table 1.</p> <p>Vulnerable populations include socioeconomic and sensitivity factors, while overburdened communities capture the geographic areas where vulnerable populations experience negative environmental and health impacts.</p>
<p>(a) <b>Disadvantaged Communities:</b> The California Environmental Protection Agency (CalEPA) is responsible for identifying disadvantaged communities. In 2022, CalEPA released an updated designation of disadvantaged communities and currently defines disadvantaged communities as:</p> <ul style="list-style-type: none"> <li>(i) The top 25% of census tracts experiencing disproportionate amounts of pollution, environmental degradation, and socioeconomic and public health conditions according to the Office of Environmental Health Hazard Assessment’s <a href="#">CalEnviroScreen 4.0 tool</a>.</li> <li>(ii) Census tracts lacking overall scores in CalEnviroScreen 4.0 due to data gaps but receiving the highest 5% of CalEnviroScreen 4.0 Pollution Burden composite scores;</li> <li>(iii) Census tracts identified in 2017 as disadvantaged, regardless of their scores in CalEnviroScreen 4.0; and</li> <li>(iiii) Lands under the control of federally recognized Tribes.</li> </ul>	<p>This definition is comparable to Washington’s <b>overburdened communities</b> and <b>highly impacted communities</b> definitions, as shown in Table 1.</p> <p>Overburdened communities capture the geographic areas where vulnerable populations experience negative environmental and health impacts, and highly impacted communities include census tracts with the highest environmental health disparities and Tribal lands.</p>
<p>(b) <b>Low-income Communities or Households:</b> those with incomes either at or below 80% of the statewide median or below a threshold designated as low-income by the Department of Housing and Community Development.<sup>37</sup></p>	<p>This term is comparable to Washington’s <b>vulnerable populations</b> definition, as shown in Table 1.</p> <p>Vulnerable populations include socioeconomic and sensitivity factors.</p>

## Benefits to Québec’s Overburdened Communities

Québec directs all proceeds from carbon allowance auctions to the Electrification and Climate Change Fund.<sup>38</sup> This fund is dedicated to climate action and supports the implementation of mitigation and adaption measures outlined in the 2030 Green Economy Plan.<sup>39</sup> There are two key terms used to describe Québec’s overburdened communities:

<sup>36</sup> These definitions originate from California [Senate Bill 535](#) and [Assembly Bill 1550](#), which designate that 35% of California Climate Investments must be allocated to priority populations.

<sup>37</sup> [California Department of Housing and Community Development Income Limits Page](#)

<sup>38</sup> This replaced the Green fund in November 2020.

<sup>39</sup> [Electrification and Climate Change Policy Framework, 2030 Green Economy Plan](#)

Communities with a high Material and Social Deprivation Index<sup>40</sup> (MSDI) score, and Northern communities. The MSDI scores are built on the six indicators in the table on the following page (see Table 2).

The Electrification and Climate Change Fund finances the measures outlined in the 2030 Plan for a Green Economy and any ongoing commitments from the 2013-2020 Climate Action Plan. The 2013-2020 Government Strategy for Climate Change Adaptation<sup>41 42</sup> identified risks to urban areas of southern Québec, where increasing frequency and intensity of extreme heat and the formation of heat islands present significant health risks to residents. The plan also identifies risks to northern communities related to climate change, including impacts on traditional food sources, permafrost degradation, avalanches, and access to clean drinking water.

More recently, Québec released the rolling 5-year implementation plan for 2025 to 2030. During the first four years of the 2030 Plan for a Green Economy, \$6.2 billion was distributed across all regions of Québec. These funds directly support key stakeholders in the climate transition, including municipalities, citizen and civil society organizations, First Nations and Inuit, industry, and small and medium-sized businesses.

The 2025 to 2030 5-year implementation plan allocates a continued \$1.23 billion to reduce risks associated with natural disasters. This includes but is not limited to risks of coastal erosion, heat, heavy rain, and forest fires. Of this, \$123 million of additional support is designated for supporting business and economic sectors particularly vulnerable to climate change. This is just a piece of \$10 billion in investments between 2024 and 2029 to decarbonize Québec and accelerate adaptation to climate change.

Québec has an objective that 100% of regional county municipalities will have a municipal adaptation plan and risk assessment completed by 2030. This information is intended to help identify high risk areas and adaptation measures as extreme weather events increase.

The plan also outlines a 22% increase in energy productivity within Québec. Québec has the lowest cost of electricity in Canada, in part due to the availability of hydropower in the province. Funding is also available to citizens for energy-efficient renovations, helping to introduce additional savings for households.

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<sup>40</sup> Institut national de santé publique du Québec (INSPQ). Index of material and social deprivation compiled by the Bureau d'information et d'études en santé des populations (BIESP) from 1991, 1996, 2001, 2006, 2011, 2016 and 2021 Canadian Census data. [<https://www.inspq.qc.ca/en/deprivation/material-and-social-deprivation-index>]

<sup>41</sup> Investments in this section are in Canadian Dollars (CDN), not United States Dollars (USD)

<sup>42</sup> [2013-2020 Government Strategy for Climate Change Adaptation](#)

The 2030 Plan for a Green Economy identifies that:

“Certain individuals and groups are more vulnerable to climate change and its impacts because of their geographic location, physical or financial limitations, or lack of social support. This is particularly true for northern and Indigenous communities. Children, seniors, and people with certain chronic illnesses are also more vulnerable. Climate change can exacerbate existing inequalities...”<sup>43</sup>

The plan concentrates on an integrated action plan for northern Québec, with special attention given to the unique challenges that face northern communities as small, isolated communities in a large geographical region. Climate change is limiting access to resources and impacting the food security of First Nations and Inuit peoples living in northern Québec. An emphasis on green infrastructure and adaptive infrastructure to mitigate the effects of climate change is a key component of the plan.

There are several spaces in which the 2030 Plan for a Green Economy touches on overburdened communities. These provisions are clearly present in Québec’s future planning and current initiatives. A major component of the plan is improving citizens’ quality of life through improved air quality as a result of initiatives contained within the plan, in addition to increasing community resilience. One example is the implementation of greening measures to help reduce risks associated with heat and heavy rainfall in urban areas. Similarly, the province is funding zoonotic disease maps to track the distribution of Lyme disease as these risks spread with shifting populations.<sup>44</sup> The plan also funds projects that secure travel, acquisition of climate knowledge and indigenous knowledge, and the resilience of supply chains for communities affected by thawing permafrost. These initiatives clearly focus on mitigating the disproportionate impact of air pollution and climate change to overburdened communities.

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<sup>43</sup> [Electrification and Climate Change Policy Framework, 2030 Green Economy Plan](#), page 87

<sup>44</sup> [plan-mise-oeuvre-2024-2029.pdf](#), Page 29, Page 49

Table 3: Québec Vulnerable and Northern Communities Definitions and Washington Comparison

Vulnerable Populations in Québec	Comparable Communities or Definitions in Washington
<p><b>Material and Social Deprivation Index:</b></p> <p>The MSDI consists of specific socioeconomic characteristics of populations living in a small area. It is composed of two dimensions: deprivation of goods and conveniences that are a part of modern life (such as housing, possession of a car, access to high-speed internet, or a neighborhood with recreational areas) and social deprivation referring to a fragile social network, starting with the family and encompassing the community. The ranking is a 1-5 with 1 as the least deprived to 5 being the most deprived. The index is built on six economic indicators:</p> <ul style="list-style-type: none"> <li>• The proportion of the population aged 15 years and over without a high school diploma or equivalent;</li> <li>• The employment to population ratio for the population 15 years and over;</li> <li>• The average income of the population aged 15 years and over;</li> <li>• The proportion of the population aged 15 and over living alone;</li> <li>• The proportion of the population aged 15 and over who are separated, divorced or widowed;</li> <li>• The proportion of single-parent families</li> </ul>	<p>This definition is comparable to Washington’s <b>vulnerable populations</b> definition under the Climate Commitment Act, as shown in Table 1.</p> <p>The MSDI also factors in the social and economic differences used to designate overburdened communities.</p> <p>The Washington definitions for <b>overburdened communities</b> and <b>highly impacted communities</b> are seen in Table 1.</p>
<p><b>Northern Communities:</b></p> <p>The North Québec territory extends north of the 49th parallel and north of the St. Lawrence River and the Gulf of St. Lawrence. The territory makes up 1.5% of Québec’s population (130,000 inhabitants). The Aboriginal peoples account for nearly one-third of the population.</p> <p>Income: From 2016 to 2020, disposable income per capita in Northern Québec was below the Québec average (In 2020, it was \$30,914 vs \$33,093 for all of Québec).</p>	<p>This term is analogous to Washington’s <b>vulnerable populations</b>, as shown in Table 1, due to the increased vulnerability to climate change for communities in Québec’s northern territory. Some projections call for average temperature increases 1.25-1.5 time greater for Québec’s northern territory than for Québec as a whole.</p> <p>Thawing permafrost is a concern for northern communities, as the melting ice can damage homes, roads, and infrastructure built on this type of terrain. This is a concern for communities above the 55<sup>th</sup> parallel, with is primarily in the northern territory. This disproportionate impact to Aboriginal communities also aligns with the definition of <b>overburdened communities</b>, of which is shown in Table 1.</p> <p>Similarly, census tracts on Tribal lands are considered highly impacted communities, due to historical inequities such as environmental racism. Seven Tribes were identified as potentially highly impacted by air pollution by Ecology. Four of these Tribes have signed Memorandums of Understanding (MOUs) with the Department of Ecology to increase criteria air pollutant monitoring and reduce the impacts of air pollution.<sup>45</sup></p>

<sup>45</sup>Washington State Department of Ecology, 2025 Report: Overburdened Communities Highly Impacted by Air Pollution, [2502037.pdf](#), Page 20

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	<p>Similarly, census tracts on Tribal lands are considered <b>highly impacted communities</b>, as shown in Table 1, due to historical inequities such as environmental racism. Seven Tribes were identified as potentially highly impacted by air pollution by Ecology. Four of these Tribes have signed Memorandums of Understanding (MOUs) with the Department of Ecology for a long-term partnership to increase criteria air pollutant monitoring, report criteria air pollution levels, and reduce the impacts of air pollution.<sup>46</sup></p>
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<sup>46</sup>Washington State Department of Ecology, 2025 Report: Overburdened Communities Highly Impacted by Air Pollution, [2502037.pdf](#), Page 20

## Impacts of Linkage on Highly Impacted Communities

Among the criteria for linkage is that linkage will “not yield net adverse impacts to either jurisdictions’ highly impacted communities or analogous communities in the aggregate, relative to the baseline level of emissions.”<sup>47</sup> This section builds upon section 3.5 in the 2023 Linkage Criteria: Preliminary Analysis report and focuses on five key topics: air pollution and health, impact on auction proceeds, household energy and fuel costs, job creation and job loss, and mitigating climate change. Each of these topics is discussed in depth below.

As Washington State’s Department of Ecology has pursued linkage, they have solicited public comments. These comments informed the following literature review and discussion of potential impacts to overburdened communities. A summary of comments from the 2023 engagement period can be found in the Preliminary Linkage Report.<sup>48</sup> All comments received to date are listed by Ecology in a publicly available document.<sup>49</sup>

One of the strongest themes across comments was concerns that linkage would reduce the effectiveness of the Cap-and-Invest Program, and result in an increased pollution burden<sup>50</sup> for overburdened communities. Comments express concern that lower allowance prices that could result from linkage will encourage covered entities to continue to emit pollutants into overburdened communities, at a greater level than they would with a higher allowance price.

In a similar vein, commenters concerned with compliance costs argue that lower allowance prices will translate to lower consumer cost. This is notable as high consumer costs (such as electricity or fuel related costs) disproportionately affect low-income communities.<sup>51</sup> A lower allowance price also results in decreased funding for mitigation in overburdened communities through CCA revenue.

Commenters also highlight potential job gains related to the funding of projects with CCA revenue.

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<sup>47</sup> RCW 70A.65.210(3)

<sup>48</sup> [Cap-and-Invest Linkage Criteria: Preliminary Analysis Report](#)

<sup>49</sup> The document can be found at this link: [Public-comments-received-2023-2025.pdf](#)

<sup>50</sup> Comments about pollution burden are typically related to air pollutants, also known as co-pollutants, that are produced alongside carbon dioxide.

<sup>51</sup> U.S. Department of Energy, Office of Energy efficiency and Renewable Energy. Low-Income Household Energy Burden Varies Among States- Efficiency Can Help In All of Them. [WIP-Energy-Burden\\_final.pdf](#)

## Air Pollution and Health

Commenters raise a variety of concerns about the impact of linkage on overburdened communities, including potential increases in exposure to air pollution. Throughout this section “emissions” refers to CO<sub>2</sub> and other GHGs and the terms “pollutants” and “co-pollutants” are used to refer to pollutants that contribute to localized air pollution.

The implementation of expanded, long-term monitoring in overburdened communities is essential to document the effectiveness of targeted and non-targeted policies related to air pollution mitigation. Without a thorough understanding of current pollution levels related to previous levels and targets, evaluating any changes related to policies becomes difficult. In December 2025, the Washington Department of Ecology Air Quality Program released the *2025 Report: Overburdened Communities Highly Impacted by Air Pollution*<sup>52</sup>. It is the first to include criteria air pollution data from monitors and sensors in all 16 designated communities.<sup>53</sup>

A variety of studies have been conducted in other jurisdictions to attempt to determine the impact of ETS on air pollution. With respect to reducing pollutant exposures disparities for overburdened communities, the studies show somewhat mixed results. A key argument from some environmental justice advocates is that ETS fail to reduce the disproportionate impacts of hazardous co-pollutants on overburdened communities.<sup>54 55</sup> Studies have found that ETS are unlikely to increase pollutant exposure disparities, and that ETS narrow but may not fully close exposure disparities for overburdened communities.<sup>56</sup> While ETS are effective at reducing overall emissions, the placement of covered industrial facilities in overburdened communities poses challenges to reducing pollution exposure. GHG emissions and air pollutant emissions often are poorly correlated, meaning that while an ETS may reduce overall GHG emissions, emissions of a co-pollutants may not necessarily decrease as well.<sup>57</sup> Other studies have found that air pollution disparities decrease under

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<sup>52</sup> [Air Quality Program 2025 Report: Overburdened Communities Highly Impacted by Air Pollution.pdf](#)

<sup>53</sup> Many of these communities had existing air monitors as part of the existing air monitoring network. Expanding this network with new monitors and sensors helps create more criteria air pollution data.

<sup>54</sup> Boyce, J. K., Ash, M., & Ranalli, B. (2023). Environmental Justice and Carbon Pricing: Can They Be Reconciled?. *Global challenges (Hoboken, NJ)*, 7(4), 2200204. <https://doi.org/10.1002/gch2.202200204>

<sup>55</sup> Front and Centered, Linking Carbon Markets Won't Benefit Our Frontline Communities. [Linking Carbon Markets Won't Benefit Our Frontline Communities - Front and Centered](#)

<sup>56</sup> The 2022 OEHHA report also references that despite significant improvements in pollutant exposure, Black Californians continue to experience twice the Pm2.5 exposure from covered facilities that White Californians do. Despite significant improvements, overburdened communities continue to be overburdened.

<sup>57</sup> Boyce, J. K., Ash, M., & Ranalli, B. (2023). Environmental Justice and Carbon Pricing: Can They Be Reconciled?. *Global challenges (Hoboken, NJ)*, 7(4), 2200204. <https://doi.org/10.1002/gch2.202200204>

ETS.<sup>58 59</sup> It should be noted that the studies referenced in this section document the introduction of an ETS, rather than the linking of existing ETSs. This report uses these studies as a reference point to discuss the potential impacts of linking existing ETSs.

In Washington, 49 facilities that report greenhouse gas emissions are located in the overburdened communities Ecology has designated as highly impacted by criteria air pollution, 22 of which are covered entities.<sup>41</sup> These are approximately 30% of the facilities covered by the Climate Commitment Act in Washington. In California, nearly half of covered entities are located near<sup>60</sup> overburdened communities.<sup>61</sup>

Co-pollutants, such as hazardous air pollutants and criteria air pollutants, are generated in addition to GHG emissions. Co-pollutants may also be reduced as a result of lowered GHG emissions. Therefore, ETSs may also reduce the amount of co-pollutants, or hazardous air pollutants, released with the generation of carbon dioxide, due to the lower levels of carbon dioxide being produced. However, there is not necessarily a one-to-one reduction for co-pollutants as GHG emissions are reduced. Because overburdened communities are also exposed to pollution from other sources not covered by an ETS, such as wildfires, overburdened communities may still face disproportionate levels of air pollutants despite lowering overall levels of pollutant exposures through reduced emissions. Hazardous air pollutants (HAPs) are additional air pollutants with health impacts, but are not classified as a criteria air pollutant (CAPs).

A 2022 University of Southern California Dornsife study highlights a need for continued targeted programs to reduce exposure in overburdened communities, as statewide improvements in GHG emissions alone may not close disparities in exposure to PM2.5.<sup>62</sup> Separately, a 2022 California Office of Environmental Health Hazard Assessment (OEHHA) report found that limitations on facilities through California's Cap-and-Invest Program reduced disparities in PM2.5 exposure<sup>63</sup>, as exposure plummeted between 2000-2019 and

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<sup>58</sup> Mei, Y., Qiu, J., Zhang, W. *et al.* Carbon markets promote environmental justice in China. *Nat Commun* **17**, 392 (2026). <https://doi.org/10.1038/s41467-025-67081-0>

<sup>59</sup> Danae Hernandez-Cortes, Kyle C. Meng, Do environmental markets cause environmental injustice? Evidence from California's carbon market, *Journal of Public Economics*, Volume 217, 2023, 104786, ISSN 0047-2727, <https://doi.org/10.1016/j.jpubeco.2022.104786>.

<sup>60</sup> The 2022 OEHHA report defines a census tract within 2.5 miles as near a facility. Page 22.

<sup>61</sup> OEHHA. 2022. Impacts of Greenhouse Gas Emissions Limits Within Disadvantaged Communities: Progress Towards Reducing Inequities. [impactsofghgpoliciesreport020322.pdf](https://oehha.ca.gov/sites/default/files/media/downloads/environmental-justice/impactsofghgpoliciesreport020322.pdf)

<sup>62</sup> Pastor, M., M. Ash, L. Cushing, et al. 2022. Up in the Air: Revisiting Equity Dimensions of California's Cap-and-Trade System. USC Dornsife Equity Research Institute. <https://dornsife.usc.edu/eri/publications/up-in-the-air-revisiting-equity-dimensions-of-californias-cap-and-tradesystem>.

<sup>63</sup> OEHHA. 2022. Impacts of Greenhouse Gas Emissions Limits Within Disadvantaged Communities: Progress Towards Reducing Inequities.

<https://oehha.ca.gov/sites/default/files/media/downloads/environmental-justice/impactsofghgpoliciesreport020322.pdf>

reduced premature deaths in these areas. Per the report, 68% of premature deaths avoided were for people of color from reductions at Cap-and-Trade covered facilities.<sup>64</sup> However, disparities remain between communities of color and White communities, despite overburdened communities experiencing the greatest PM2.5 exposure reductions. The sector type<sup>65</sup> of facilities located near overburdened communities, such as refineries or electricity generators, may have a higher correlation between GHG and co-pollutants emissions than other sectors.

The OEHHA 2022 study also highlighted that the majority of GHG and PM2.5 emissions are from entities that use offsets in lieu of other compliance mechanisms. In California, offsets can be used for a small portion (4-8%) of an entity's compliance obligation. However, this analysis is limited in scope as offset usage is tracked at the entity level in California.

### *Environmental Justice Gaps and ETS*

The environmental justice (EJ) gap refers to the historic higher level of exposure to pollutants in disadvantaged communities relative to wealthier communities. Some literature identifies concerns that, despite their narrowing the EJ gap related to local air pollution, market-based policies prioritize efficiency in achieving GHG emissions reductions instead of local air pollutant emissions reductions to more rapidly narrow the EJ gap.<sup>66</sup> A 2013 study of U.S. industrial facilities and co-pollutant intensity<sup>67</sup> found that a one-size-fits-all approach to emission<sup>68</sup> reductions was less than optimal, as policies targeted at overburdened communities produce greater co-benefits from pollution reduction than an ETS alone. While less than optimal for achieving reductions in local air pollutant emissions, ETS do provide reductions in exposure which could be further improved by consideration of co-pollutant intensity. As demonstrated in the 2022 OEHHA report, overburdened communities benefit the most from ETS driven emissions reductions, even though exposure disparities remain. When considering optimal approaches to reducing local air pollutant emissions from stationary sources, it is important to recognize that the agency with the authority to regulate such emissions (e.g., a local air district) is

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<sup>64</sup> OEHHA. 2022. Impacts of Greenhouse Gas Emissions Limits Within Disadvantaged Communities: Progress Towards Reducing Inequities. Page 35. The study uses the Environmental Benefits Mapping and Analysis Program (BenMAP) to estimate changes in avoided premature mortality due to changes in PM2.5 concentrations.

<sup>65</sup>In the OEHHA study, sectors such as refineries, electricity generation, and co-generation had higher percentages of facilities placed in overburdened communities.

<sup>66</sup> Danae Hernandez-Cortes, Kyle C. Meng, Do environmental markets cause environmental injustice? Evidence from California's carbon market, *Journal of Public Economics*, Volume 217, 2023, 104786, ISSN 0047-2727, <https://doi.org/10.1016/j.jpubeco.2022.104786>.

<sup>67</sup> Boyce, J.K., Pastor, M. Clearing the air: incorporating air quality and environmental justice into climate policy. *Climatic Change* **120**, 801–814 (2013). <https://doi.org/10.1007/s10584-013-0832-2>

<sup>68</sup> This study is inclusive of co-pollutants and GHG.

often different from the agency with the authority to regulate GHG emissions from those sources by an ETS (e.g., a state agency).

While the introduction of an ETS could widen or narrow an existing EJ gap, it is expected that the reduced reliance of fossil fuels would have positive air quality impacts to major sources of GHG emissions. It is often difficult to forecast the effect, as GHG and co-pollutant emissions can vary strongly by sector and year. As such, high quality data prior to and following the implementation of an ETS is essential to help evaluate program effectiveness. Market-based policies are more suited for allocative efficiency than distributional objectives, and as such are insufficient to address environmental justice concerns alone.<sup>6669</sup> A separate 2018 study<sup>70</sup> found that California’s Cap-and-Invest<sup>71</sup> Program from 2011 to 2015 (inclusive of three years of the program) had not improved environmental equity in co-pollutant emissions, but did not worsen local air quality. The 2018 study did not demonstrate any cause and effect of the Cap-and-Invest Program on air quality. A discussion of the limitations of study and a retraction of some findings can be found in the [CARB Cap-and-Trade Program: Frequently Asked Questions](#) document.<sup>72</sup>

The implementation of targeted initiatives for projects that benefit disadvantaged communities funded by Cap-and-Trade allowance funds seeks to address equity concerns, with rulemaking underway in Washington to reduce criteria air pollution in the specified communities.<sup>73</sup> However, barriers to accessing these initiatives may continue to inhibit efforts to equitably reduce pollutants in priority populations.<sup>74</sup> A 2024 analysis<sup>75</sup> of California Climate Investments (CCI) found that despite significant reductions in local pollution burden, communities desired more direct visible air quality improvements. In this

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<sup>69</sup> Danae Hernandez-Cortes, Kyle C. Meng, Do environmental markets cause environmental injustice? Evidence from California’s carbon market, *Journal of Public Economics*, Volume 217, 2023, 104786, ISSN 0047-2727, <https://doi.org/10.1016/j.jpubeco.2022.104786>.

<sup>70</sup> Cushing L, Blaustein-Rejto D, Wander M, Pastor M, Sadd J, Zhu A, et al. (2018) Carbon trading, co-pollutants, and environmental equity: Evidence from California’s cap-and-trade program (2011–2015). *PLoS Med* 15(7): e1002604. <https://doi.org/10.1371/journal.pmed.1002604>

<sup>71</sup> At the time, the program was named the “Cap-and-Trade Program”. It is referred to as the Cap-and-Invest Program to help minimize confusion.

<sup>72</sup> California Air Resources Board, Cap-and-Trade Program: Frequently Asked Questions, Environmental Justice Communities and Local Air Pollution. [nc-FAQ\\_CT.pdf](#)

<sup>73</sup> Rulemaking for [Chapter 173-448 WAC- Air Quality in Overburdened Communities](#) works to implements parts of [RCW 70A.65.020: Environmental justice review](#).

<sup>74</sup> Pastor, M., M. Ash, L. Cushing, et al. 2022. Up in the Air: Revisiting Equity Dimensions of California’s Cap-and-Trade System. USC Dornsife Equity Research Institute. <https://dornsife.usc.edu/eri/publications/up-in-the-air-revisiting-equity-dimensions-of-californias-cap-and-tradesystem>.

<sup>75</sup> [A-Call-to-Invest-in-Community-Power-Full-Report-2024.pdf - Google Drive](#), The Greenlining Institute and USC Equity Research Institute.

manner, the report calls for state and local climate and air quality programs to do more to reduce the burden of emissions of GHGs and co-pollutants on overburdened communities.

Evidence from a study on the China Certified Emission Reduction (CCER) carbon trade system<sup>76</sup> demonstrates that the pilot ETS showed that ETS significantly reduced haze concentration and SO<sub>2</sub> emissions. Additionally, the study demonstrates that some emitters were stimulated to upgrade and transform their technology infrastructure, while other emitters relocated their polluting to non-covered areas. A separate 2019 study<sup>77</sup> also found that the CCER ETS promoted green innovation and decreases in carbon intensity. However, this effect was weakened in a more competitive market as firms had more limited resources to invest in low carbon innovation.

While there is some concern among commenters that a lower allowance price will reduce incentives to invest in technological innovation, a lower price and more stable market may encourage confidence in investing for firms. Additionally, not all sectors have the tight correlation between GHG emissions and the emission of co-pollutants that the assumption of worsened impacts from co-pollutants requires. The correlation between GHG emissions and local air pollution varies based on industry and pollutant type.<sup>78 79</sup>

Technological improvements by each individual component ETS to improve equity in pollution reduction outcomes are likely to persist in a linked market. Continued community participation and investment into overburdened and vulnerable communities can help reduce disparities in pollution exposure. Additionally, investment in emissions reducing technology by individual facilities under an ever-tightening cap should reduce the burden of air pollution on adjacent communities. Different industrial facilities under the Cap-and-Invest Program will reduce differing amounts of co-pollutants as overall emissions are reduced.

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<sup>76</sup> Yaxue Yan, Xiaoling Zhang, Jihong Zhang, Kai Li, Emissions trading system (ETS) implementation and its collaborative governance effects on air pollution: The China story, *Energy Policy*, Volume 138, 2020, 111282, ISSN 0301-4215, <https://doi.org/10.1016/j.enpol.2020.111282>.

<sup>77</sup> Lu Zhang, Cuicui Cao, Fei Tang, Jiaxin He & Dayuan Li (2019) Does China's emissions trading system foster corporate green innovation? Evidence from regulating listed companies, *Technology Analysis & Strategic Management*, 31:2, 199-212, DOI: 10.1080/09537325.2018.1493189

<sup>78</sup> 5 OEHHA. 2022. Impacts of Greenhouse Gas Emissions Limits Within Disadvantaged Communities: Progress Towards Reducing Inequities. California Office of Environmental Health Hazard Assessment (OEHHA). <https://oehha.ca.gov/environmental-justice/report/ab32-benefits>.

<sup>79</sup> WANG, FENG, et al. "Exploring the impacts of carbon market linkage on sectoral competitiveness: A case study of beijing–tianjin–hebei region based on the CEECPA model." *Climate Change Economics*, vol. 11, no. 03, 9 July 2020, p. 2041005, <https://doi.org/10.1142/s2010007820410055>.

### *Efforts to reduce exposure disparities*

In 2024, Ecology announced rulemaking for a new rule to reduce air pollution in overburdened communities that are highly impacted by criteria air pollutants.<sup>80</sup> The rulemaking will implement provisions of the CCA that promote environmental justice<sup>81</sup> by determining processes and strategies for air pollutant emission reductions to achieve air quality targets in the communities initially identified by Ecology. It is expected to be finalized in 2026.

In Washington, local clean air agencies work closely with Ecology. Expanded cross agency partnerships with the DOH and local health jurisdictions are underway to leverage state and local networks at the intersection of health and the environment.

Using CCA revenue, Ecology launched a new air quality in overburdened communities grant in 2024. Projects funded address capacity and planning steps, as well as fund specific CAPs mitigation projects, lessening persistent criteria air pollution disparities. The Air Quality in Overburdened Communities Initiative also includes expanded air monitoring across the 16 different communities and Tribes, biennial reports about pollution levels and their health impacts, identifying targets, processes and strategies to reduced emissions. As directed by the statute Ecology is, engaging with the public in a knowledge exchange that respects community and Tribal input regarding agency actions. Local health jurisdictions are already taking action to protect residents from harmful air pollution through monitoring and community-based air quality improvement efforts.

In tandem with other activities implementing the CCA, like the Air Quality in Overburdened Communities Initiative, Cap-and-Invest will work to mitigate the impacts of air pollution in these communities. The above literature review supports Ecology's finding that the placement of industrial facilities in communities with a higher cumulative pollution burden than other communities make it more difficult to close the gap in these areas without targeted programs. Programs like California's Community Air Protection Program (CAP Program) work to reduce air pollution emissions and exposures in overburdened neighborhoods.<sup>82</sup> In a linked market, these programs are likely to benefit from a more stable revenue source to fund air quality improvement initiatives in overburdened communities. Sustained and plannable funding for these initiatives ensures that

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<sup>80</sup> WAC 173-448 – Air Quality in Overburdened Communities. <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-448>. The Preliminary Draft Rule Language is available at this link: [448DraftRule20251114.pdf](https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-448/448DraftRule20251114.pdf)

<sup>81</sup> RCW 70A.65.020: Environmental justice review.  
<https://app.leg.wa.gov/RCW/default.aspx?cite=70A.65.020>

<sup>82</sup> California Air Resources Board, About Community Air Protection Program webpage. [About CAP Program | California Air Resources Board](https://www.arb.ca.gov/aboutcap.htm)

community grant programs, engagement, and monitoring will continue. As discussed in prior sections, California and Québec have similar programs and priorities concerning air pollution. Linkage allows for continued CAP monitoring and regulation through state and federal clean air acts in Washington. These actions are still supported by the Clean Air Regulation in California and Environment Quality Act in Québec.

## Impact on overall auction proceeds

Some commenters are concerned that linkage would result in lower auction proceeds. While Washington's Cap-and-Invest Program revenue is designed to decrease due to decreasing available allowances, price volatility introduces difficulty in allocating expected funds. While a lower allowance price results in less revenue in the short term, a high allowance price may erode support for the Program and shorten the overall duration. The improved perception about long-term durability of the California Program once it was extended to 2045 may support higher allowance prices as participants engage in more farsighted planning and investment. While overall revenue may be reduced if linkage leads to lower allowance prices, the more stable and predictable revenue from less volatile pricing may improve the funds allocation process.

## Household energy and fuel costs

ETS often raise concerns about pass through costs to the public, particularly as low income households are disproportionately harmed by price increases. Linkage, and a theoretically less volatile market with lower allowance prices, could reduce the expenses passed to consumers by the Cap-and-Invest Program. As climate change and resulting extreme weather events worsen in frequency and severity, it is expected that energy needs will also increase. While warmer winters may reduce heating costs in some areas of the United States, hotter summers increase demand for cooling and are likely to outweigh any energy-use reductions from lower heating needs across the nation.<sup>83</sup> In regions with highly carbonized electricity sectors, it is expected that an ETS would lead to increased electricity costs.<sup>84</sup>

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<sup>83</sup> Zamuda, C., et al. (2018). Ch. 4: Energy supply, delivery, and demand. In: *Impacts, risks, and adaptation in the United States: Fourth national climate assessment, volume II*. U.S. Global Change Research Program, Washington, DC, p. 181.

<sup>84</sup> Lenain, Patrick. "Differentiated Carbon Prices in the Electricity Sector: Towards a Cooperative Approach Based on Purchasing Power Parity." *Council on Economic Policies (CEP)*, 25 Aug. 2023, [www.cepweb.org/differentiated-carbon-prices-in-the-electricity-sector-towards-a-cooperative-approach-based-on-purchasing-power-parity/](http://www.cepweb.org/differentiated-carbon-prices-in-the-electricity-sector-towards-a-cooperative-approach-based-on-purchasing-power-parity/).

Washington has historically had relatively low energy costs due to the abundance of hydropower in the state, accounting for 59% of electricity generation in the state in 2024.<sup>85</sup> In 2024, Washington was among the top one-fourth of states in the nation with the lowest average electricity prices.<sup>86</sup> Québec also benefits from robust hydropower infrastructure, with 94% of the province’s electricity generation from hydropower, 5% from wind, and less than a percent from natural gas and other fuels in 2022.<sup>87</sup> Québec’s residential and large-power customers have the lowest electricity rates, compared to other North American cities.<sup>88</sup> California also has abundant renewable energy resources, and is only surpassed by Texas in renewable energy production.<sup>89</sup> In 2024, renewable energy resources supplied 57% of California’s total in-state electricity generation. The high proportion of renewable electricity generation helps prevent increases in energy costs upon implementation of ETS.

Continued drought has negatively affected hydropower generation in Washington, with hydropower generation peaking in 2011. Growing energy demands from data centers and extreme heat events has placed additional emphasis on bolstering renewable electricity generation and transmission in Washington. CCA revenue is also used to fund clean energy generation projects, including the development of a clean energy workforce.<sup>90</sup> Similarly, the Washington State Department of Commerce is working to hasten improvements to energy transmission and renewable energy projects.<sup>91</sup>

Within the Washington Cap-and-Invest Program electric and natural gas utilities<sup>92</sup> receive allowances at no cost. The CCA seeks to mitigate the cost burden of the Cap-and-Invest Program on Washington consumers. Impacts on utility bills will ultimately be determined by the handling of revenue from the sale of excess allowances, or costs incurred of allowance purchases. However, electric and natural gas utilities must use the proceeds from the sale of no-cost allowances to benefit utility customers. Similarly, the Department of Commerce administers the Washington Families Clean Energy Credits Grant Program<sup>93</sup>, which helps to mitigate impacts on low and moderate income households through a \$200

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<sup>85</sup> [United States - U.S. Energy Information Administration \(EIA\)](#)

<sup>86</sup> U.S. EIA, Electricity Data Browser, Average retail price of electricity, annual (cents per kilowatthour), 2001-24.

<sup>87</sup> [Québec: Clean electricity snapshot - Canada.ca](#)

<sup>88</sup> HydroQuébec 2-24 Comparison of Electricity Prices in Major North American Cities, [comparison-electricity-prices-2024.pdf](#)

<sup>89</sup> [United States - U.S. Energy Information Administration \(EIA\)](#), Texas Analysis, June 20, 2025. U.S. EIA, Electric Power Monthly (February 2025), Tables 1.10.B, 1.11.B, 1.15.B, 1.16.B, 1.17.B, 1.18.B.

<sup>90</sup> [2514107.pdf](#)

<sup>91</sup> [Washington Works to Speed Up Green Energy After ProPublica Report — ProPublica](#)

<sup>92</sup> No cost allowances for natural gas utilities decline each year proportional to the total annual Cap-and-Invest Program allowance budgets. [RCW 70A.65.130: Allocation of allowances to natural gas utilities](#). (1)(a), [No-cost allowance allocation - Washington State Department of Ecology](#)

<sup>93</sup> [Washington Families Clean Energy Credits Grant Program – Washington State Department of Commerce](#)

credit on utility bills. This credit is dispersed to qualifying families by their utilities, and is funded by Cap-and-Invest Auction revenue.

The falling costs of low-carbon energy generation may strengthen the ability of electricity providers to decarbonize.<sup>94</sup> While it is difficult to ascertain the extent to which carbon prices are passed to consumers, with some literature supporting an incomplete pass-through of carbon costs to wholesale electricity prices.<sup>95</sup> Recent analysis of the California Cap-and-Invest Program<sup>96</sup> found that carbon prices have played a small role in driving retail electricity price increases. Notably, the impact to residents' utility bills are largely offset by the California Climate Credit, which sends consigned allowance auction revenues back to utility consumers in California.

The current programs designed to mitigate impacts to low-income households through credits remain in effect. Additionally, some energy companies may face fewer administrative costs by participating in a linked market, allowing them to pass on savings to the consumer. Previous commenters representing energy companies shared that they expect linkage will reduce compliance and administrative costs, which would likely result in savings to their customers.<sup>97</sup>

### Job creation and job loss

The employment impact of linkage is difficult to ascertain, as the expected employment impact is a reflection of shifting demand for fossil fuel and the clean energy transition. Some companies with high emissions currently receive no-cost allowances to mitigate emissions leakage, which may also help preserve jobs, many of which are high paying. As mentioned above, many of these companies are located in highly impacted communities.

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<sup>94</sup> Yiyi Bai, Samuel J. Okullo, Drivers and pass-through of the EU ETS price: Evidence from the power sector, *Energy Economics*, Volume 123, 2023, 106698, ISSN 0140-9883, <https://doi.org/10.1016/j.eneco.2023.106698>.

<sup>95</sup> Athanasios S. Dagoumas, Michael L. Polemis, Carbon pass-through in the electricity sector: An econometric analysis, *Energy Economics*, Volume 86, 2020, 104621, ISSN 0140-9883, <https://doi.org/10.1016/j.eneco.2019.104621>.

<sup>96</sup> Fowlie, M. and Burtraw, D. Assessing the Affordability Implications of California's GHG Cap and Trade Program. IEMAC Chapter Draft- January 2025. CALEPA. [Chapter-1-Assessing-the-Affordability-Implications-of-Californias-GHG-Cap-and-Trade-Program.pdf](#)

<sup>97</sup> Ecology, Linkage Criteria: Preliminary Analysis, October 2023. [2314005.pdf](#)  
<https://apps.ecology.wa.gov/publications/documents/2314005.pdf>

As these facilities receive fewer no-cost allowances in later years of the Program, less volatile and lower allowance prices may encourage them to remain in Washington.<sup>98 99 100</sup>

Linkage also allows for the reduction of inefficiencies and helps alleviate regulatory redundancy. This may moderate compliance costs and free revenue for capital investment in decarbonization technologies. The Joint Comments of Avista Corporation, Cascade Natural Gas Corporation, NW Natural, and Puget Sound Energy Regarding Cap-and-Invest Linkage Agreement<sup>101</sup> highlighted the depression of wholesale electric sales from Washington generating facilities to California electricity markets. They stated that in an unlinked market, a “double payment” occurs as power generated using carbon-based fuels faces two separate carbon prices in Washington and California, raising costs in Washington.

Research by the Environmental Defense Fund<sup>102</sup> finds that the usage of Cap-and-Invest revenue supports the creation of 287,000 jobs across California. These jobs are primarily in construction, agriculture, forestry, local transit, and engineering. Work by the Clean Energy Transition Institute (CETI) supports that innovation and investment in clean energy through the CCA if the Northwest achieves net-zero emissions may lead to job growth in the Northwest. CETI’s Net-Zero Northwest (NZNW) study<sup>103</sup> projects a 17% growth in energy employment from 2021 to 2030, across the northwest. While some workers in traditional fossil fuel industries are likely to be displaced, new job opportunities are expected with the implementation of clean energy technologies. The projected net change in jobs as a result of achieving net-zero emissions is positive, even with displacement in the fossil fuels sector.<sup>104</sup> It is difficult to classify “clean” energy workers versus “dirty” energy workers, as evolving technologies are not quickly reflected in occupational data. Similarly, these transitions are independent of linkage, as they reflect net-zero targets across the northwest regardless of linked Program.

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<sup>98</sup> Martinsson, G., et. al. “The Effect of Carbon Pricing on Firm Emissions: Evidence from the Swedish CO2 Tax”. *Rev. of Financial Studies*. 37 (6), 2024.

<sup>99</sup> Bartram, S. et. al. “Real Effects of Climate Policy: Financial Constrains and Spillovers”. *J. Financial Economics*. 143 (2), 2022

<sup>100</sup> Pan, X. and Yu, L. “Do China’s Pilot Emissions Trading Schemes Lead to Domestic Carbon Leakage? Perspective from the Firm Relocation”. *Energy Economics*. 132, 2024.

<sup>101</sup> [mm05i3jn7hr\\_document.pdf](#)

<sup>102</sup> [Extending Cap-and-Trade Program Saves Working Families \\$3.9 Billion, Creates 287,000 Jobs and \\$55 Billion in Economic Growth](#)

<sup>103</sup> Net-Zero Northwest Workforce Analysis, April 2024, Clean Energy Transition Institute (CETI), [Workforce Analysis | Net-Zero Northwest](#)

<sup>104</sup> [Workforce Analysis | Net-Zero Northwest](#)

The Clean Energy Technology Workforce Advisory Committee Report<sup>105</sup> emphasizes the need for a better understanding of emerging workforce needs in the clean energy sector. While the NZNW projects an overall positive impact on employment, barriers such as retraining and a lack of comparable high-quality positions for displaced workers are important considerations. A recent Resource for the Future report<sup>106</sup> and an accompanying data tool<sup>107</sup> outline some of the difficulties of matching high-emissions industries workers into new positions. In particular, highly specialized occupations such as unit operators may need significant retraining to transfer industries. The report expects that existing workforce training programs will need to expand to train the workforce needed to transition to a low-emissions energy economy. As noted in the 2024 Washington State Refinery Economic Impact Study, there may be suitable industries for displaced refinery workers, but not enough positions.<sup>108</sup> These considerations reflect the broader clean energy transition. CCA revenue is appropriated to the Workforce Training and Education Coordinating Board. This revenue is used both to develop a clean energy workforce and uplift vulnerable populations into in demand occupations.<sup>109</sup>

## Mitigating climate change

Some commenters worry that potential reductions in revenue related to a lower allowance price post linkage will undermine the Program’s ability to fund climate change mitigation. Overburdened communities are among the first to suffer from climate change and air pollution, while also lacking the resources to address those impacts. These communities experience disproportionate impacts from worsening and more frequent extreme weather events. The ability of the Cap-and-Invest Program to continue to distribute auction revenue to mitigate the impacts of climate change while helping slow climate change through reduced emissions is dependent on two factors: the continued existence of the Program and the Program’s credibility.<sup>110</sup> The next section will discuss those factors.

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<sup>105</sup> Workforce Training & Education Coordinating Board, Clean Energy Technology Workforce Advisory Committee Report: Workforce implications of Washington’s clean energy transformation- a partnership with labor, business, postsecondary education, and state agency partners. November 29, 2023. [CETWAC-Report.pdf](#)

<sup>106</sup>Raimi, D. and Greenspon, J. Resources for the Future. March 3, 2025. [Finding the Right Fit: What Jobs Offer a Good Match for Fossil Fuel Workers’ Skills?](#)

<sup>107</sup> Resources for the Future [Skills Matching Explorer](#)

<sup>108</sup> [New legislative report and webinar recording – Washington State Refinery Economic Impact Study – Washington State Department of Commerce](#)

<sup>109</sup> [2514107.pdf](#), Table 77, Page 563.

<sup>110</sup> Credibility is used here to refer to the belief or trust market participants have in the long-term existence and enforcement of a carbon market. Policymakers commitment to climate targets encourages farsighted investment and planning among participants, encouraging innovation and development.

Lessons from the EU ETS inform this understanding. If firms do not consider the long-term emissions cap credible, they may not invest in the emissions reductions necessary to meet the long-term cap. This could manifest from political uncertainty regarding ETS and their continued existence, or the perception that there are too many allowances on the market. This credibility encourages long term planning and investment among market participants. The tightening of the EU emissions cap and policy makers renewed commitment to the market potentially drove a surge in allowance prices.<sup>111</sup> Without this foresight and credibility, firms are less likely to invest in green technology and innovation.<sup>112</sup> Uncertainty around the California market's continued existence in the mid 2010's may have impacted the price of allowances.<sup>113</sup> This uncertainty revolved around the extension of the market past 2020, and litigation that challenged the existence of the market.<sup>114</sup> While the Program was extended to 2030, continued uncertainty among participating firms may have hindered appropriate long term investments. The recent extension of the Program to 2045 further reaffirms perceptions about long-term durability of the California Cap-and-Invest Program and the linked market. The extension is likely to support more stable and higher allowance prices as the cap tightens and firms engage in farsighted investments.

A linked program is expected to create more stable allowance prices by expanding the market to include a larger pool of buyers and secondary sellers, as the Washington market allowance price falls toward the larger linked market price. This price stability allows for more extensive planning for revenue use and cost planning by participating firms. Additionally, lower allowance prices create a smaller impact when costs are passed on to consumers, helping increase public support for the program. Additionally, a linked program may increase efficiencies for market participants that can be invested into decarbonization, ultimately leading to net benefits for participating markets.

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<sup>111</sup> Sitarz, J., Pahle, M., Osorio, S. *et al.* Policy credibility is a key component for an effective and efficient EU Emissions Trading System. *Nat Energy* **9**, 637–638 (2024). <https://doi.org/10.1038/s41560-024-01545-3> ; Sitarz, J., Pahle, M., Osorio, S. *et al.* EU carbon prices signal high policy credibility and farsighted actors. *Nat Energy* **9**, 691–702 (2024). <https://doi.org/10.1038/s41560-024-01505-x>

<sup>112</sup> Kang, S. B. & Létourneau, P. Investors' reaction to the government credibility problem: a real option analysis of emission permit policy risk. *Energy Econ.* **54**, 96–107 (2016).

<sup>113</sup> Danny Cullenward, Andy Coghlan, Structural oversupply and credibility in California's carbon market, *The Electricity Journal*, Volume 29, Issue 5, 2016, Pages 7-14, ISSN 1040-6190, <https://doi.org/10.1016/j.tej.2016.06.006>.

<sup>114</sup> [California's Landmark Cap-and-Trade Program Upheld by California Supreme Court](#)

## Impacts on Washington’s emissions reductions limits

For the benefits of linkage to be further understood, potential impacts to Washington’s ability to achieve the greenhouse gas emissions reductions limits established in RCW 70A.45.020 must be identified. The linkage criteria direct Ecology to “evaluate and make a finding regarding whether the aggregate number of unused allowances in a linked program would reduce the stringency of Washington's program and the state's ability to achieve its greenhouse gas emissions reduction limits.” As part of the evaluation, Ecology must include a “consideration of pre-2020 unused allowances.”<sup>115</sup> As a standalone Program, Washington has clear emissions limits. These limits will remain in place in a linked market. Concerns from public comments related to meeting these limits in a linked market primarily revolve around concerns of surplus allowances. The scale of this concern is exacerbated by the size difference between the California-Québec market and Washington market. As the joint California-Québec market is nearly six times the size of the Washington market, unused allowances could flow into the smaller market.

However, it should be noted that GHG damages are global. A key tenet of Cap-and-Trade theory is that meeting the overall emissions reduction goal across all jurisdictions is more important than a single state meeting the goal due to the shared nature of GHG damages. This is analogous to standalone Washington emissions reduction limits: if the overall state limit is met, ultimately, individual county reductions are irrelevant. However, some pollutants like particulate matter have localized effects, often concentrated in overburdened communities, that carbon markets may help mitigate.<sup>116</sup> This is discussed in the air pollution and health section above.

Ultimately, a linked market may result in an uneven distribution of emissions reductions across the joined Programs. However, it may still support the state to meet its overall limits. Allowance flows between jurisdictions are likely to shift over time in response to technological innovation and reduced costs of low GHG technology implementation. Linkage between California and Québec, through access to a larger pool of allowances at a more stable price has allowed firms to afford allowances and invest in emissions reductions. Some literature also suggests that linkage broadens the availability of emissions-reduction tools and enables access to the lowest-cost options for abatement, as is discussed in a later section.<sup>117 118</sup> During the first two years of the joint California-

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<sup>115</sup> [RCW 70A.65.210: Linkage with other jurisdictions.](#)

<sup>116</sup> [RCW 70A.65.005: Findings—Intent.](#)

<sup>117</sup> Rutherford, P. 2025. *Linking Emissions Trading Schemes: Lessons from the EU-Swiss ETSs*. Carbon & Climate Law Review, 2014, Vol. 8, No. 4 (2014), pp. 282-290. [Linking Emissions Trading Schemes: Lessons from the EU-Swiss ETSs on JSTOR](#)

<sup>118</sup> [Considerations for Washington’s Linkage Negotiations with California and Québec](#)

Québec market, allowances flowed from Québec into California. Since then, allowances have flowed from California to Québec.<sup>119</sup> The common market for the linked Programs have been successful in meeting each jurisdiction's 2020 emissions reduction targets. Ultimately, the impact of a linked market will rely on the proportional size of the demand for allowances in each market and the benefits of a presumed lower allowance price.

To address concerns of unused allowances, an understanding of a binding vs non-binding cap is essential. A binding emissions cap is required to meet emissions limits through emissions reductions. A non-binding emissions cap imposes an ideal emissions reduction path, but may lack the ability to move firms from a business-as-usual emissions trajectory in the absence of other market features and complementary measures. A binding cap, however, pushes emitters to either adopt or develop new technology and reduce their emissions, or purchase allowances. Over time, the constricting cap increases the cost of allowances, encouraging firms to reduce their emissions rather than pay growing allowance costs. The generation of an overabundance of allowances is understood to inhibit the effectiveness of an ETS, as the affordability of the cost of allowances does not create urgency to reduce emissions in order to avoid paying for compliance.

The Washington Cap-and-Invest Program was designed with lessons from older ETS in mind to maintain a binding cap and includes intentional design features to ensure that the Program actually helps reduce emissions. Some of these features include mechanisms to prevent overallocation of allowances. ETS can manage overallocation through a mixture of tools, including dynamic cap adjustments or price collars.

Critics of the California Program argue that too many allowances are available. Previous analysis conducted by CARB to analyze the presence of unused allowances in 2018<sup>120</sup> and 2022<sup>121</sup> found that the design of the California Program removes unsold allowances and limits the holding of allowances, with an estimated 5% of the total number of vintage 2013-2030 allowances unused in 2022. However, some literature surrounding the California Program raises concerns that historical allowance allocation was excessive, which may limit emissions reductions. Unused allowances indicate emissions reductions happened earlier than expected. However, it also may shift emissions toward the future, potentially complicating the timing of emissions reductions needed to meet interim climate targets.<sup>122</sup>

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<sup>119</sup> [nc-Article 8 Net Flow Report.pdf](#)

<sup>120</sup> [06 C&T Appendix D - AB398](#)

<sup>121</sup> [BR 18-51 Cap-and-Trade Allowance Report](#)

<sup>122</sup> [Overallocation in the California-Québec Carbon Market: A Useless Cap Until 2030 – Chaire de gestion du secteur de l'énergie](#)

<sup>123</sup> <sup>124</sup> <sup>125</sup> However, when GHG emissions are further below the cap in the earlier years of a program, as seen in California and Québec, that has a greater benefit for climate change mitigation.

In 2021, a price ceiling was imposed on the California Program through Assembly Bill 398.<sup>126</sup> The Washington Cap-and-Invest Program also has a price ceiling, as outlined in [Chapter 173-446 WAC](#). Washington and California have a shared feature called Price Ceiling Units (PCUs). All three Programs also share the Allowance Price Containment Reserve (APCR) feature.<sup>127</sup> The APCR is a separate pool of allowances under the cap that are released into the market under specific circumstances. This includes when quarterly auction prices reach a certain threshold, once a year prior to the compliance deadlines. PCUs are integrated into this price containment framework, and are available only after allowances in the APCR are exhausted. Price ceiling units are available if there are no allowances left in the APCR, and a covered entity does not have sufficient allowances for a compliance period. By law, Ecology is required to sell as many PCUs as those entities require to meet their compliance obligation.<sup>128</sup> PCUs are inherently in excess of the emissions cap.

Since Washington is required to offer PCUs in the event allowance prices exceed the price ceiling, there is no incentive for entities to purchase allowances at prices above the ceiling price. The price ceiling and the requirement that covered entities must be able to purchase enough allowances to be compliant, even above the cap, introduces a per metric ton of carbon dioxide equivalent fee. PCUs are sold under very limited circumstances. In this scenario, where an ETS includes a soft price ceiling and allows compliance through payment at a fixed price, it has been characterized as a hybrid system, combining elements of a cap-and-trade program and a carbon tax.

In 2024, California<sup>129</sup> issued notices indicating the potential removal of at least 180 million allowances from the 2026-2030 annual budgets and up to 265 million allowances removed from the 2026-2045 annual allowance budgets. In tandem, Québec<sup>130</sup> issued a notice that they were assessing the program and also proposing changes, including addressing an

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<sup>123</sup> [California's Cap-and-Trade Program: Frequently Asked Questions](#)- California Legislative Analysts Office

<sup>124</sup> [2019-california-green-innovation-index-final.pdf](#)

<sup>125</sup> [Tracking banking in the Western Climate Initiative cap-and-trade program](#)

<sup>126</sup> [Bill Text - AB-398 California Global Warming Solutions Act of 2006: market-based compliance mechanisms: fire prevention fees: sales and use tax manufacturing exemption.](#)

<sup>127</sup> [Cap-and-Invest Linkage Criteria: Preliminary Analysis Report](#), **page 18**

<sup>128</sup> RCW 70A.65.160, WAC 173-446-380, -385

<sup>129</sup> [Information Regarding Cap-and-Trade Regulation Updates](#)

<sup>130</sup> [Market Notice - Information concerning the assessment of the cap-and-trade system for greenhouse gas emission allowances \(C&T System\) October 15, 2024](#)

estimated gap of 17.5 million emission units between 2013-2020. In January 2026, California released proposed amendments to the Cap-and-Invest Regulation. These proposed amendments included the removal of approximately 118 million allowances from the 2027-2030 allowance budgets, and revise post-2030 allowance budgets to align with the 2045 target. This removal is a technical adjustment to align with updates to the California GHG inventory. However it may address concerns related to the quantity of banked allowances in the California-Québec market. On a similar note, Ecology is directed to periodically evaluate the annual allowance budget, including potentially reducing the number of allowances available to achieve Washington’s GHG emissions limits.

California’s proposed amendments also include the retirement of allowances based on offset credit usage by covered entities as specified in AB 1207<sup>131</sup>. This change brings the California Program into alignment with Washington in the way offsets are treated as “under the cap”. Housing offset credits “under the cap” means Washington reduces the number of allowances issued by the number of offset credits used to maintain emissions reduction limits.

As mentioned in the previous section, the Washington market’s credibility and perceived durability have significant implications. A myopic<sup>132</sup> viewpoint among participating entities may influence allowance prices. The perception that too many allowances are available may also impact allowance prices, as entities perceive a lack of future allowance scarcity. The Washington Program is more recent, and can take lessons from older ETS. As a result, it employs mechanisms that help limit unused allowances, discussed further below. These mechanisms may help support the credibility of the Washington market, which may be further strengthened through a linked market.

## Mechanisms to Limit Surplus Allowances

As referenced above, some analysis has identified the potential for banked reserves to interfere with meeting climate initiatives. While recent proposed amendments by the California Program aim to address many of such concerns, the potential mechanisms for allowance removal in a linked market are discussed below.

A relevant feature of the Washington market is the Emissions Containment Reserve (ECR). The ECR is currently only a feature of the Washington market and has multiple functions. The ECR acts as a mechanism for adjusting the supply of allowances if allowances remain unsold for 24 consecutive months. Unsold allowances are moved to Washington’s ECR account, removing them from general circulation. Allowances may be distributed from the

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<sup>131</sup> [Bill Text: CA AB1207 | 2025-2026 | Regular Session | Chaptered | LegiScan](#)

<sup>132</sup> Nearsighted, lacking foresight or insight

ECR by auction when new covered or opt-in entities enter the program.<sup>133</sup> When no cost allowances are allocated to entities directly from the ECR, they must be used for compliance and cannot be traded. These features prevent surplus accumulation and strengthen the environmental integrity of the cap.<sup>134</sup>

Another feature of the ECR is a trigger price, which is currently suspended in Washington. If in effect, it would function as a soft price floor by reducing the number of allowances available for sale when bids would otherwise clear below the trigger threshold. Bidders may still submit bids below the trigger price, but the auction system withholds enough allowances to ensure the final clearing price is at least the trigger price. An ECR trigger price is not applicable to a linked market as a Washington specific policy.<sup>135</sup> As this feature is not shared by the California or Québec markets, its function in a linked market is outside of the scope of this report.

An ECR with a trigger price was implemented in the Regional Greenhouse Gas Initiative (RGGI) in 2021, but prices have not fallen to the trigger price at any point yet. Additionally, as part of the 2025 Model Rule, RGGI decided to phase out the ECR by 2027, replacing it with a minimum reserve price mechanism instead.<sup>136</sup>

Current allowance prices in Washington are higher than those in the California-Québec market. Linking the markets, barring changes to the current regulatory environment, is likely to lower the Washington allowance price. While individual entities would then be more able to purchase allowances and invest more in abatement or decreasing their emissions, it could also have the effect of resulting in fewer near-term emissions reductions. From a theoretical perspective, this would be dependent upon it being cheaper for an emitter to buy more allowances than to incur higher marginal abatement costs<sup>137</sup>. This scenario may result in higher emissions in Washington, making achieving Washington's emission reduction limits in a standalone market more difficult if prices

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<sup>133</sup> RCW 70A.65.140(5)

<sup>134</sup> RCW 70A.65.140(4)(b)

<sup>135</sup> Burtraw and Roy explore a scenario under a market in which California also has an ECR, modeling potential changes to CARB's allowance budget with the introduction of an ECR. The report discusses the ways in which an ECR may reduce uncertainty by narrowing the range of expected allowances prices. Currently, Washington is the only party in the proposed linked system to have an ECR. However, this falls outside the scope of this report as California's program does not include an ECR, and neither does Québec's program.

(Roy, N., M. Domeshek, and D. Burtraw. 2024. Designing for Uncertainty: Amendments to California's Cap-and-Trade Market. Resources for the Future. <https://www.rff.org/publications/reports/designing-for-uncertainty-amendments-to-californias-cap-and-trade-market/>.)

<sup>136</sup> [RGGI Third Program Review Significantly Strengthens GHG Targets, Expands Cost Containment Reserve, Eliminates Offsets, and Makes Other Changes to RGGI Model Rule](#)

<sup>137</sup> Marginal abatement costs refers to the cost of reducing the next additional GHG unit, such as a ton of CO<sub>2</sub> or a CO<sub>2</sub> equivalent. This is the cost to an entity (regardless of size) of an incremental reduction in emissions.

remain below the marginal cost of abatement. That does not mean the shared total emissions reductions are unreachable. The improved market stability and resulting ability to invest in decarbonization and other technological improvements, along with increased economies of scale could outweigh temporary increases in emissions after linkage.

If a standalone Washington market's allowance prices reach the price ceiling, triggering the sale of PCUs, any PCU sold exceeds the emissions cap. By definition, PCUs are not covered under the emissions cap set by Ecology, and are triggered if the APCR allowances are exhausted. If the sale of PCUs is triggered due to sustained allowance prices at the price ceiling, this could create greater difficulty in meeting Washington's GHG limits as a standalone market over time. However, if these sales are not triggered frequently, Ecology may be able to adjust the number of available allowances in later auctions in response. As of this report writing, allowance prices have not reached the price ceiling in Washington. However, a number of APCR sales have been triggered. This scenario is a concern during later, more restrictive stages of the Cap-and-Invest Program as the number of allowances sold falls.

Linkage may promote long-term Program stability and success by reducing allowance price volatility. Uncertainty and an inability to plan for future costs can deter firms from investing in developing technologies to reduce emissions or implementing costly capital investments. A linked market is expected to create more stable allowance prices by expanding the market to include a larger pool of buyers and secondary sellers. The California-Québec market currently has lower prices than the Washington market. As such, allowance prices are likely to fall in the direction of the larger market's price. Washington Program participants will have access to a larger market. This allows participants to buy and sell allowances on the secondary market that they may not otherwise have had access to in a standalone Program.

The possibly lower price also reduces the costs passed to consumers by covered entities. Generally, price volatility is viewed very negatively and may diminish public support for the program. The general public may view price volatility as a negative credibility signal, undermining trust in the program and creating suspicion about raised costs. Public support for an ETS is essential for its continued implementation. Negative perception of the program contributes to initiatives like Initiative 2117<sup>138</sup> that create market instability and threaten the longevity of the Washington Program.

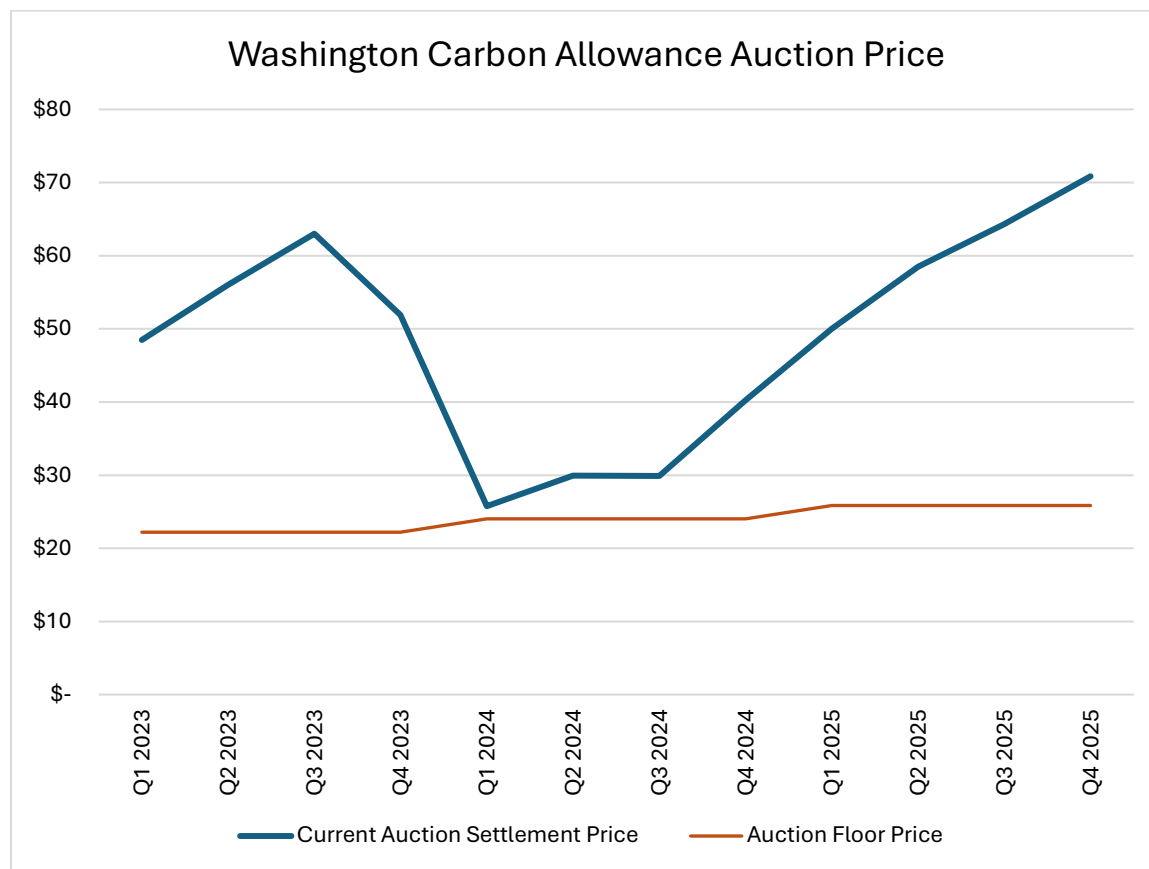
The Washington Cap-and-Invest Program has experienced price volatility, which may have been perceived negatively by some members of the general public, as seen in some

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<sup>138</sup> [Washington Initiative 2117, Prohibit Carbon Tax Credit Trading and Repeal Carbon Cap-and-Invest Program Measure \(2024\) - Ballotpedia](#)

comments to Ecology during public engagement.<sup>139</sup> While it is difficult to definitively say why prices declined so sharply during 2024 (see Figure 1), the announcement and subsequent fervor of Initiative 2117 may have impacted the credibility of the program. In doing so, it could have prompted myopic perspectives among participants, depressing allowance prices until the initiative failed during the November 2024 election.

Figure 1: Washington Cap-and-Invest Carbon Allowance Quarterly Auction Prices from 2023-2025



In addition to the above mechanisms, California has a “self-ratcheting mechanism” to remove unsold allowances from the market, as allowances unsold at quarterly auctions during periods of low demand are removed from circulation, and slowly reintroduced during periods of high demand. This mechanism is only activated when allowances are at the auction floor price to provide a gradual counter balance to low prices. These allowances are moved to the APCR. In 2016 and 2017, this mechanism removed a total of 37,076,922 allowances from general circulation to the APCR.

<sup>139</sup> [Linkage-Public-Comment-Spring-2023.pdf](#), pages 2, 3,

As the market responds to any constriction in allowance supply,<sup>140</sup> the removal of allowances would help drive the price of allowances above the price floor and signal long-term durability<sup>141</sup> to firms. This may also help improve foresight and encourage investment in decarbonization among firms. However, the increased cost of allowances could also theoretically increase the risk that firms would reduce or move their production rather than invest in emissions reduction technologies. Washington, Québec, and California all have allowance allocation mechanisms to mitigate emissions leakage risk for covered industrial facilities. This is discussed further in the Cost Effectiveness of Linkage section.

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<sup>140</sup> Burtraw and Roy, Resources for the Future, Harnessing Carbon Value to Lower Costs in California, Issue Brief 25-03.

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## Cost Effectiveness of Linkage

This report aims to determine whether linkage is likely to meet the criteria to “provide for a more cost-effective means for covered entities to meet their compliance obligations in Washington while recognizing the special characteristics of the state’s economy, communities, and industries.”<sup>142</sup> Background research suggests that linking Washington’s Cap-and-Invest Program with California and Québec may result in a more cost-effective means for covered entities to meet their compliance obligations in Washington. Cost savings may result from reduced allowance prices, increased access to abatement options, and overall improved efficiency associated with more stable prices. However, uncertainty regarding prices and market responses is inevitable. The market is composed of hundreds of individual businesses, public and private actors, and is influenced by local, state, and national politics. Additionally, these markets aren’t immune to the influence of macroeconomic factors. Market behavior is tricky to predict, and sometimes markets just are not as efficient as expected.

Economic theory and historical evidence suggest that Program linkage promotes price convergence.<sup>143 144</sup> Given that Washington’s carbon allowance prices have historically exceeded those in the California-Québec Program, allowance prices in Washington will likely fall after linkage, assuming that allowance prices remain above the California-Québec allowance price until linkage.<sup>145</sup> However, allowance pricing can be quite difficult to predict and may not follow historical trends. It can also be impacted significantly by political uncertainty. This uncertainty can affect prices in unpredictable ways beyond what is forecasted in supply and demand-based modeling.

As discussed previously, weak perceptions about the long-term durability of a program’s longevity may contribute to shortsightedness by market participants. Market participants must believe a program is durable in the long term to prompt farsighted investments in emissions reduction technology. It is difficult to ascertain the magnitude of the impact of uncertainty on allowance prices. Allowance prices in the California-Québec market have

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<sup>142</sup> [RCW 70A.65.210: Linkage with other jurisdictions.](#)

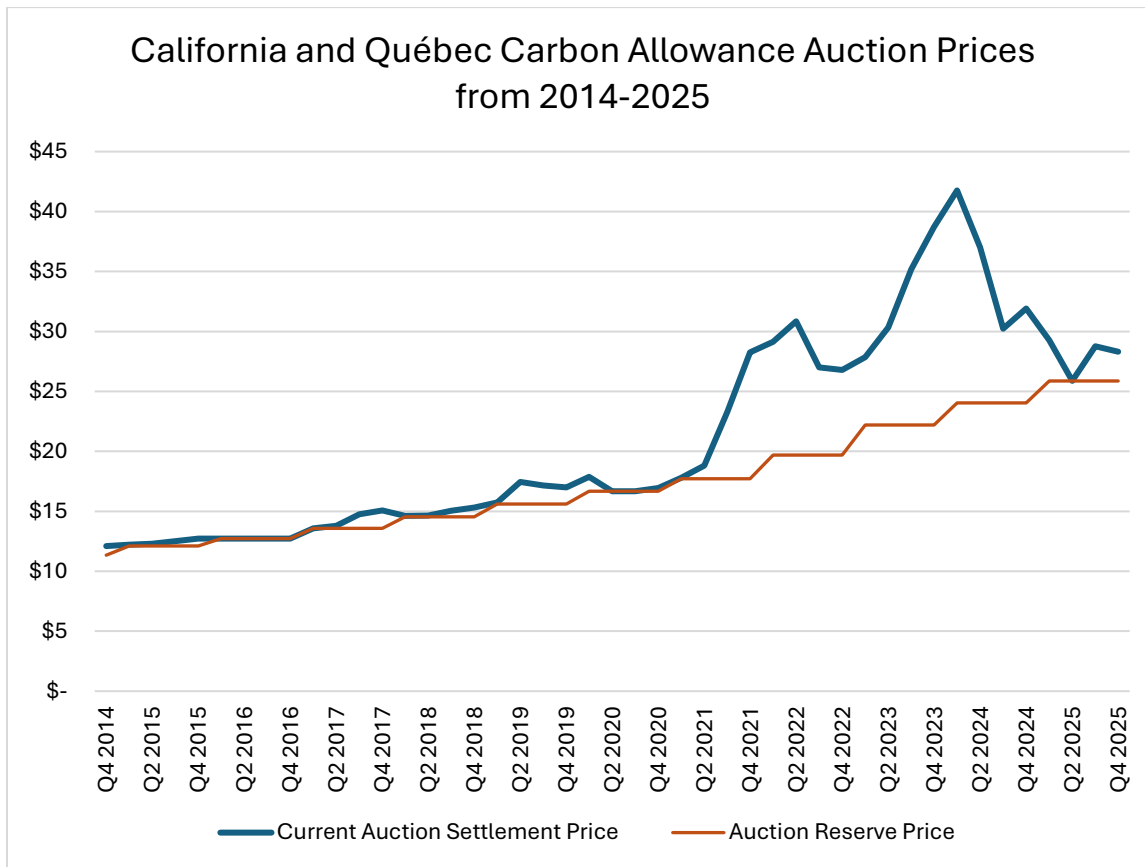
<sup>143</sup> Wang, Feng, Beibei Liu, and Bing Zhang. 2020. “EXPLORING THE IMPACTS OF CARBON MARKET LINKAGE ON SECTORAL COMPETITIVENESS: A CASE STUDY OF BEIJING–TIANJIN–HEBEI REGION BASED ON THE CEECPA MODEL.” *Climate Change Economics* 11 (03): 2041005. <https://doi.org/10.1142/S2010007820410055>.

<sup>144</sup> Zhang, Xiliang, Andreas Löschel, Joanna Lewis, Da Zhang, and Jinyue Yan. 2020. “Emissions Trading Systems for Global Low Carbon Energy and Economic Transformation.” *Applied Energy* 279 (December): 115858. <https://doi.org/10.1016/j.apenergy.2020.115858>.

<sup>145</sup> The California- Québec linked market allowance price has historically been close to the program’s price floor, with some movement above the floor between 2020-2024. This assumption is that the trend of prices close to or at the price floor continues.

fluctuated over time (see Figure 2). The current auction price has fallen since a peak in 2024 Q1 and met the price floor during the 2025 Q2 auction. Early stages of the program had allowance prices at or close to the price floor until early 2020.<sup>146</sup> Some literature suggests that uncertainty and weak perceptions about long-term durability can create periods of market instability.<sup>147</sup> By extending the California Program through 2045, Californian policymakers have reinforced the program’s long-term durability, possibly prompting changes in allowance prices. Despite the extension, the market did not respond with significantly higher prices, as many expected. This further underscores the difficulties of estimating allowance prices in an unpredictable market.

Figure 2: California and Québec Carbon Allowance Auction Prices from 2014-2025



<sup>146</sup> [Cap-and-Trade Program Data Dashboard | California Air Resources Board](#), California and Québec Carbon Allowance Prices figure

<sup>147</sup> Danny Cullenward, Andy Coghlan, Structural oversupply and credibility in California’s carbon market, *The Electricity Journal*, Volume 29, Issue 5, 2016, Pages 7-14, ISSN 1040-6190, <https://doi.org/10.1016/j.tej.2016.06.006>.

Lower allowance prices would allow Washington firms to purchase allowances and comply with the law at a lower cost. The literature also suggests that linking markets stabilizes allowance prices and reduces volatility.<sup>148 149</sup> These effects allow for efficiency gains and would likely improve cost-effectiveness for covered entities in Washington. These efficiency gains stretch beyond just lower total allowance costs, as less volatile allowance prices let firms plan for allowance costs.

Comments from covered entities like bp and Puget Sound Energy (PSE) reiterate the importance of planning for long-term investment in emissions reductions. Capital investment for electric utilities, petroleum refineries, and other covered entities may move on a timescale of decades rather than years. As a result, capital investments to reduce emissions require certainty about program longevity. As a standalone program, covered entities are likely paying more for allowances than they might in a linked market. The ability to comply with regulations at a lower cost frees capital for investment in reducing emissions or research and development. Over time, these investments to reduce emissions may prove more cost effective than continuing to pay for allowances without reducing a firm's total emissions.

The literature also suggests that linkage broadens the availability of emissions-reduction tools and enables access to the lowest-cost options for abatement.<sup>150 151 152</sup> This may result in direct compliance cost savings for covered entities in Washington after linkage.

In a contrasting example, the allowance price in Washington could theoretically fall before linkage occurs, meaning that linkage could result in a price increase in Washington if the California-Québec price is relatively higher. However, this seems somewhat improbable given the current price of allowances in Washington. Given that this scenario is unlikely, this report focuses on a lower linked market allowance price than the standalone Washington market allowance price.

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<sup>148</sup> Roy, Nicholas, Suzanne Russo, and Dallas Burtraw. n.d. *Considerations for Washington's Linkage Negotiations with California and Québec*.

<sup>149</sup> Zhang, Xiliang, Andreas Löschel, Joanna Lewis, Da Zhang, and Jinyue Yan. 2020. "Emissions Trading Systems for Global Low Carbon Energy and Economic Transformation." *Applied Energy* 279 (December): 115858. <https://doi.org/10.1016/j.apenergy.2020.115858>.

<sup>150</sup> Rutherford, P. 2025. *Linking Emissions Trading Schemes: Lessons from the EU-Swiss ETSs*. Carbon & Climate Law Review, 2014, Vol. 8, No. 4 (2014), pp. 282-290. [Linking Emissions Trading Schemes: Lessons from the EU-Swiss ETSs on JSTOR](https://doi.org/10.1016/j.ccl.2014.04.001)

<sup>151</sup> Chen, Zihong, Paul E. Brockway, Sheridan Few, and Jouni Paavola. 2025. "The Impact of Emissions Trading Systems on Technological Innovation for Climate Change Mitigation: A Systematic Review." *Climate Policy* 25 (8): 1293–1309. doi:10.1080/14693062.2024.2443464.

<sup>152</sup> Shamal Chandra Karmaker, Kanchan Kumar Sen, Andrew J. Chapman, Golam Mohiuddin, Bidyut Baran Saha, Innovation under Cap-and-Trade: How emission trading systems propel decarbonization, Next Energy, Volume 7, 2025, 100220, ISSN 2949-821X, <https://doi.org/10.1016/j.nxener.2024.100220>.

While there are some uncertainties around the timing of linkage and potential market responses, the literature supports the prediction that linking Washington’s carbon market with California and Québec is likely to improve cost-effectiveness for covered entities by decreasing the allowance price, broadening access to abatement options, and increasing overall efficiency and stability.

## Conclusion

This report builds on the previous preliminary linkage criteria analysis completed by Ecology in 2023, and seeks to address recent regulatory changes and the evolving academic literature around ETS. Similarly, data around program effectiveness regarding air pollution mitigation and reducing disparities for overburdened communities continues to evolve. Linking with the California-Québec market may improve the stability and durability of Washington's market in the long-term and offer greater flexibility for entities to meet their compliance obligations. As it stands, the Washington Program is designed to be compatible with the California-Québec joint market, and shares many similar features. Under Washington's criteria, this report discusses four primary questions. Each of these questions is written below, with a brief answer drawn from the sections above included.

*What provisions do California and Québec have in place to ensure the distribution of benefits from the program to vulnerable populations and overburdened communities?*

Both California and Québec have analogous communities to Washington's "overburdened communities" and "vulnerable populations". These communities are designated for additional efforts to mitigate their disproportionately experienced impacts of climate change and environmental pollution. California requires that 35% of emission allowance auctions revenue goes to priority populations, including Tribal communities. Québec's 2030 Plan for a Green Economy builds on existing investments to finance adaptation measures in municipalities and Indigenous communities. These measures include protecting vulnerable communities from increasingly frequent heat waves and heavy rain by installing green infrastructure. Québec's plan highlights overburdened communities, and the disproportionate effects of climate change they experience, with prior work focused on identifying hazards and implementing solutions. The plan highlights a variety of needed actions to help improve resilience and quality of life for these communities.

*What are potential positive and negative impacts to overburdened communities in Washington, California, or Québec in the aggregate, relative to the baseline level of emissions?*

Overburdened communities are likely to benefit from linkage through the overall reduction in emissions and air pollution exposure reductions from adjacent covered entities. The placement of covered entities in overburdened communities creates significant potential for improvements in pollution exposure disparities as these entities reduce total emissions as the cap tightens. This may not fully reduce exposure disparities for overburdened communities as these improvements are shared statewide due to the mobile nature of air pollution. Similarly, a more durable program supports revenue that can be used to help

mitigate the impacts of co-pollutants on communities. However, some commenters advocate that care should be taken to implement programs for overburdened communities, by overburdened communities in order to address persistent disparities. Programs like Ecology's Air Quality in Overburdened Communities Grants Initiative, which seek to implement community led projects to improve air quality can help close the gap. The Air Quality in Overburdened Communities Initiative also supports the expansion of the Washington Air Monitoring Network in overburdened communities. Ecology reports data from these monitors in the biennial CCA environmental justice review. Co-pollutants may decrease alongside GHG emissions, although this varies by sector and location. In addition, in 2024, Ecology announced rulemaking for a new rule to reduce air pollution in overburdened communities that are highly impacted by criteria air pollutants.<sup>153</sup> Ecology is engaging with Local Clean Air Agencies and gathering input from the public to develop localized emissions reduction strategies. This rulemaking is expected to be finalized in 2026.

A linked program, with less volatile allowance prices, may allow for less difficulty in allocating funds. While this may result in less revenue as allowance prices fall, this consideration may be outweighed by the ability to plan for revenue. Relatedly, the design of the Washington and California programs strive to mitigate impacts to low-income households through utility bill credits using auction revenue. Programs like the Washington Families Clean Energy Credits Grant Program, in tandem with potential savings to energy companies from reduced compliance costs, are likely to mitigate additional expenses to low-income households. In California, air quality in overburdened communities has improved more than in wealthier neighborhoods since the implementation of Cap-and-Invest. Communities of color experienced a cumulative reduction in exposure to toxic air pollutants. Cap-and-Invest proceeds are the only sustained source of funds for many critical programs improving air quality in overburdened communities. This includes the Community Air Protection Program under AB 617, which uses a community-driven process to monitor and reduce air pollution emissions and exposures in overburdened neighborhoods.

*What are the potential impacts to Washington's ability to achieve the emission reduction limits established in RCW 70A.45.020?*

A linked market could theoretically reduce emissions reductions activity if Washington's allowance prices fall toward the currently lower price in the California-Québec market. This

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<sup>153</sup> WAC 173-448 – Air Quality in Overburdened Communities. <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/rulemaking/wac-173-448>.

outcome is dependent on covered entities deciding to buy allowances and continue to emit rather than investing more in abatement to decrease emissions. In this scenario, and absent other market or regulatory forces, it may be more difficult for Washington to meet emissions reduction limits. However, GHG damages are global and as such are shared across jurisdictions. Cap-and-Trade theory states that the shared emissions reductions across all jurisdictions will be more efficient and effective than individual states pursuing greenhouse gas emissions reductions by acting alone.

A linked market may also be more durable, and have improved credibility among market participants. A durable program is essential to future GHG reductions, which is improved through foresighted behavior from participants. When market participants have a myopic perspective, or believe the program lacks long term durability, it may weaken the investments covered entities make to reduce emissions. Additionally, a more durable and less volatile market allows for decarbonization planning, including through predictable revenue for mitigation programs.

Covered entities could use the money saved from a cheaper allowance price to invest in emissions reduction technology, in which case emissions reductions would be bolstered. In this scenario, Washington may not face additional difficulties in meeting emissions reduction limits. The scale of this effect is difficult to predict and dependent upon the decisions of private entities, adding further uncertainty.

*Is linkage likely to provide for a more cost-effective means for covered entities to meet their compliance obligations in Washington?*

Washington allowance prices currently remain above the prices in the California-Québec joint market. If this persists, it is likely that upon linking, Washington's prices would fall toward the price of the joint market allowances. A reduction in price and improved price stability from linkage is likely to improve cost-effectiveness for covered entities. Larger markets are typically more efficient, partially through increased opportunities for low-cost abatement in addition to less volatile pricing. Additionally, lower allowance costs theoretically allow for greater investments in emissions reductions, reducing future costs as allowance prices increase over time.

## Supplemental Materials

This section contains tables of the data in Figures 1 and 2, for screen reader accessibility.

Table 3: California and Québec Cap-and-Invest Carbon Allowance Auction Prices from 2014 to 2025<sup>154</sup>

Joint Auction	Quarter Year	Current Auction Settlement Price	Auction Reserve Price
Joint Auction 1	Q4 2014	\$12.10	\$11.34
Joint Auction 2	Q1 2015	\$12.21	\$12.10
Joint Auction 3	Q2 2015	\$12.29	\$12.10
Joint Auction 4	Q3 2015	\$12.52	\$12.10
Joint Auction 5	Q4 2015	\$12.73	\$12.10
Joint Auction 6	Q1 2016	\$12.73	\$12.73
Joint Auction 7	Q2 2016	\$12.73	\$12.73
Joint Auction 8	Q3 2016	\$12.73	\$12.73
Joint Auction 9	Q4 2016	\$12.73	\$12.73
Joint Auction 10	Q1 2017	\$13.57	\$13.57
Joint Auction 11	Q2 2017	\$13.80	\$13.57
Joint Auction 12	Q3 2017	\$14.75	\$13.57
Joint Auction 13	Q4 2017	\$15.06	\$13.57
Joint Auction 14	Q1 2018	\$14.61	\$14.53
Joint Auction 15	Q2 2018	\$14.65	\$14.53
Joint Auction 16	Q3 2018	\$15.05	\$14.53
Joint Auction 17	Q4 2018	\$15.31	\$14.53
Joint Auction 18	Q1 2019	\$15.73	\$15.62
Joint Auction 19	Q2 2019	\$17.45	\$15.62
Joint Auction 20	Q3 2019	\$17.16	\$15.62
Joint Auction 21	Q4 2019	\$17.00	\$15.62
Joint Auction 22	Q1 2020	\$17.87	\$16.68
Joint Auction 23	Q2 2020	\$16.68	\$16.68
Joint Auction 24	Q3 2020	\$16.68	\$16.68
Joint Auction 25	Q4 2020	\$16.93	\$16.68
Joint Auction 26	Q1 2021	\$17.80	\$17.71
Joint Auction 27	Q2 2021	\$18.80	\$17.71
Joint Auction 28	Q3 2021	\$23.30	\$17.71
Joint Auction 29	Q4 2021	\$28.26	\$17.71
Joint Auction 30	Q1 2022	\$29.15	\$19.70
Joint Auction 31	Q2 2022	\$30.85	\$19.70
Joint Auction 32	Q3 2022	\$27.00	\$19.70
Joint Auction 33	Q4 2022	\$26.80	\$19.70

<sup>154</sup> Sourced via the CARB Cap-and-Trade Program Data Dashboard, figure 2. <https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/program-data/cap-and-trade-program-data-dashboard#Figure2>

<b>Joint Auction 34</b>	Q1 2023	\$27.85	\$22.21
<b>Joint Auction 35</b>	Q2 2023	\$30.33	\$22.21
<b>Joint Auction 36</b>	Q3 2023	\$35.20	\$22.21
<b>Joint Auction 37</b>	Q4 2023	\$38.73	\$22.21
<b>Joint Auction 38</b>	Q1 2024	\$41.76	\$24.04
<b>Joint Auction 39</b>	Q2 2024	\$37.02	\$24.04
<b>Joint Auction 40</b>	Q3 2024	\$30.24	\$24.04
<b>Joint Auction 41</b>	Q4 2024	\$31.91	\$24.04
<b>Joint Auction 42</b>	Q1 2025	\$29.27	\$25.87
<b>Joint Auction 43</b>	Q2 2025	\$25.87	\$25.87
<b>Joint Auction 44</b>	Q3 2025	\$28.76	\$25.87
<b>Joint Auction 45</b>	Q4 2025	\$28.32	\$25.87

Table 4: Washington Carbon Allowance Auction Prices 2023 to 2025

<b>Auction #</b>	<b>Quarter Year</b>	<b>Current Auction Settlement Price</b>	<b>Auction Floor Price</b>
<b>Auction #1</b>	Q1 2023	\$48.50	\$22.20
<b>Auction #2</b>	Q2 2023	\$56.01	\$22.20
<b>Auction #3</b>	Q3 2023	\$63.03	\$22.20
<b>Auction #4</b>	Q4 2023	\$51.89	\$22.20
<b>Auction #5</b>	Q1 2024	\$25.76	\$24.02
<b>Auction #6</b>	Q2 2024	\$29.92	\$24.02
<b>Auction #7</b>	Q3 2024	\$29.88	\$24.02
<b>Auction #8</b>	Q4 2024	\$40.26	\$24.02
<b>Auction #9</b>	Q1 2025	\$50.00	\$25.85
<b>Auction #10</b>	Q2 2025	\$58.51	\$25.85
<b>Auction #11</b>	Q3 2025	\$64.30	\$25.85
<b>Auction #12</b>	Q4 2025	\$70.86	\$25.85

## Appendix F: Market Modeling Methods and Results

The Washington Department of Ecology (Ecology) contracted with a team from the University of California (UC),<sup>1,2</sup> led by Professors Aaron Smith and James Bushnell, to conduct economic modeling on the state’s Cap-and-Invest Program (Program). The purpose of this work is to provide Ecology with insight into Washington’s standalone Cap-and-Invest Program, including its allowance market, and how it might function in a linked market with California and Québec.

Ecology is pursuing this work for several reasons. Under House Bill (HB) 1975 (2025), Ecology is required to conduct economic modeling and market analysis of the Cap-and-Invest Program.<sup>3</sup> Ecology plans to release additional modeling results and analysis later this year to meet the requirements of HB 1975. In addition, this work supports Ecology’s evaluation of the criteria for linking. The primary purpose of this appendix is to provide background on the model’s methodology and results to supplement discussions found in this report (in Section 3).<sup>4</sup> The modeling results included in this Appendix and report are for the purpose of understanding potential relative impacts of linkage and do not constitute a forecast of a standalone or linked market by Ecology.

As the model forecasts further into the future, the model’s uncertainty increases. Ecology chose to model through 2030 to analyze potential impacts from linkage through the next compliance period and on the upcoming statutory emissions reduction requirement – to reduce emissions to 45% below 1990 levels by 2030. Because all three jurisdictions are in the process of revising their program regulations, including setting future allowance budgets, Ecology determined that modeling a linked market scenario beyond 2030 would have too much uncertainty to provide reliable insights.

There are inherent uncertainties and limitations to modeling carbon markets. For example, the model developed by the University of California takes a conservative approach when predicting technology adoption (e.g. renewable energy, zero-emissions vehicles) by including confidence parameters that add uncertainty that existing complementary climate policy targets will be achieved (see Appendix F Table 2). Further, it does not account for greenhouse gas reductions from the investments funded by the state using Cap-and-Invest auction proceeds. Other jurisdictions’ modeling of similar programs indicates that investments may achieve considerable emissions reductions (see Section 3.2.1 above). Additionally, because the model assumptions are primarily based on past emissions data, it cannot account for as yet unrealized transformational technologies that would change the pace of decarbonization. Finally,

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<sup>1</sup> The University of California team also conducted similar modeling for the California Air Resources Board (CARB). The model was presented in November 2023: <https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/cap-and-trade-meetings-workshops>.

<sup>2</sup> See also: Borenstein et al. 2019. Expecting the Unexpected: Emissions Uncertainty and Environmental Market Design. *American Economic Review*, 109(11): 3953–3977. <https://doi.org/10.1257/aer.20161218>.

<sup>3</sup> HB 1975 requires Ecology to publish economic modeling results by the end of 2026, with updates published in 2027 and every 2 years thereafter. See RCW 70A.65.340 for further detail on HB 1975 statutory requirements.

<sup>4</sup> Ecology notes that this appendix is more technical by design than the corresponding section on the model in the report (Section 3.2). As a result, the language the appendix uses to describe the model differs in some parts from the language used in the report.

modeling cannot account for unpredictable external factors, such as national and international economics and politics (for example, pandemics and recessions).

## Methodology

This section provides an overview of the model’s methodology. It focuses mostly on the methodology of modeling the Washington standalone program, with a section at the end that addresses modeling of a Washington-California-Québec linked market. It covers the model’s structure and approach, as well as assumptions about the future that inform the model, including assumptions related to other complementary greenhouse gas reduction policies.

At a high level, the model predicts the price of allowances by intersecting a projected supply of allowances with an estimated demand for allowances. The demand for allowances is based upon a forecast of greenhouse gas emissions, while the supply is based on a combination of the number of allowances available in the Program and a forecast of emissions abatement.<sup>5</sup>

The model takes two steps in estimating emissions:

- **First step (business-as-usual emissions model):** The model forecasts greenhouse gas emissions covered by the Program. Specifically, the model estimates “business-as-usual” (BAU) emissions. BAU emissions represent emissions in a future where emissions continue on their current trajectory, without influence from the Cap-and-Invest Program or other climate policies. I.e., this does not factor in the expected reductions of any recently-passed major climate policies such as the Clean Energy Transformation Act (CETA), the Clean Fuel Standard (CFS), or the Cap-and-Invest Program.
- **Second step (supply model emissions reductions):** The model applies emissions reductions from major climate policies and the Cap-and-Invest Program to BAU emissions.

There are separate supply/demand models for standalone and linked scenarios.

### Business-as-Usual Emissions Model

To estimate BAU emissions, the model uses an econometric time series that applies data from 1990-2023 to forecast emissions through 2030. Specifically, the model is a Dynamic Factor Model (DFM).<sup>6</sup> Time series are commonly used to track existing trends and extrapolate those trends into the future. By leveraging this modeling technique, the University of California emphasizes capturing historic and current trends over making strong up-front assumptions about the future. The time series incorporates the impacts of complementary climate policies to the extent that they as a whole have influenced recent emissions trends. However, in Washington, the impact of key state policies such as CFS and Cap-and-Invest is likely minimal because they only became effective in 2023. Since 2023 is the final year of data included the

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<sup>5</sup> Abatement in this document refers to economic activity that reduces greenhouse gas emissions.

<sup>6</sup> A DFM is a time series model that captures the dynamics of different variables as they move towards a long-term equilibrium.

model, the impacts of these policies will not be meaningfully captured in the BAU model until future model runs are conducted that incorporate more recent data.<sup>7</sup>

The model uses the output from the time series model to build a distribution of possible BAU greenhouse gas emissions outcomes. The distribution is estimated using a Monte Carlo simulation that takes 1,000 draws based on the standard errors of the variables in the model.

### *Variables and Data*

Greenhouse gas emissions regulated under the Cap-and-Invest Program result from human economic activity. The demand model therefore includes a set of eleven variables that attempt to capture the range of economic activity generating greenhouse gas emissions in Washington. These variables are detailed in Appendix F Table 1.

The model uses data from 1990 through 2023 on high-emitting economic activities across multiple sectors, including electricity, natural gas, transportation fuels, and industrial processing. These sectors capture the downstream economic activity that drives emissions, such as transportation, building heating and cooling, and consumption of manufactured and industrial goods.

In the time series model, the vector  $X_{st}=(X_{1st},X_{2st},\dots,X_{11st})'$  is composed of the eleven annual magnitudes for the 34 years  $t$  between 1990–2023 and 11 states  $s$  in the Western Electricity Coordinating Council (WECC).<sup>8</sup>

The rightmost column of Appendix F Table 1 includes the data sources for each variable. The analysis also used emissions reporting data from Washington and California for calibration purposes.

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<sup>7</sup> Under HB 1975, Ecology is required to provide modeling in 2026, 2027 and every two years thereafter.

<sup>8</sup> While the University of California team models all 11 WECC states, they primarily used results from Washington and California for the linkage scenario.

Appendix F Table 1. Demand model variables

Variable notation	Variable name	Variable description	Data source
X <sub>1st</sub>	State-level electricity consumption	The total amount of electricity consumed in residential, commercial, and industrial sectors in Washington in a given year. Includes electricity imports from out-of-state, but not exports.	<a href="#">EIA State Electricity Profile</a> <sup>9</sup>
X <sub>2st</sub>	State-level electricity generation	The total amount of electricity generated in Washington in a given year. Includes electricity exported out-of-state, but not imports.	<a href="#">EIA-923</a> <sup>10</sup>
X <sub>3st</sub>	Greenhouse gas emissions - electricity sector	The total carbon emissions from the electricity sector in Washington in a given year. Energy throughput and carbon intensities are estimated separately.	<a href="#">EIA SEDS</a> <sup>11</sup>
X <sub>4st</sub>	Greenhouse gas emissions - industrial sector	The total carbon emissions from the industrial sector in Washington in a given year.	<a href="#">EIA SEDS</a>
X <sub>5st</sub>	Greenhouse gas emissions - natural gas sector	The total carbon emissions from the natural gas sector in Washington in a given year. Natural gas used for industrial sector and electricity generation is captured in previous variables.	<a href="#">EIA SEDS</a>
X <sub>6st</sub>	Total vehicle miles traveled (VMT)	The total number of miles travelled by all vehicles in-state in a given year.	<a href="#">FHWA</a> <sup>12</sup>
X <sub>7st</sub>	State-level transportation fuel demand (gasoline)	The total amount of gasoline consumed in-state in a given year.	<a href="#">EIA SEDS</a>
X <sub>8st</sub>	State-level transportation fuel demand (diesel)	The total amount of diesel consumed in-state in a given year.	<a href="#">EIA SEDS</a>
X <sub>9st</sub>	Real gross state product	The total monetary value of all goods and services produced by a state within a given year, adjusted for inflation.	<a href="#">FRED</a> <sup>13</sup>
X <sub>10t</sub>	Global oil prices	The average price of a barrel of oil in a given year.	<a href="#">WTI</a> <sup>14</sup> , <a href="#">Brent</a> <sup>15</sup>
X <sub>11st</sub>	State-level natural gas prices	The average price of natural gas in a given year.	<a href="#">State-level Citygate natural gas</a> <sup>16</sup>

<sup>9</sup> <https://www.eia.gov/electricity/state/>

<sup>10</sup> <https://www.eia.gov/electricity/data/eia923/>

<sup>11</sup> <https://www.eia.gov/state/seds/seds-data-complete.php?sid=US>

<sup>12</sup> <https://www.fhwa.dot.gov/policyinformation/statistics.cfm>

<sup>13</sup> <https://fred.stlouisfed.org/series/WAGOVSLRGSP>

<sup>14</sup> <https://fred.stlouisfed.org/series/MCOILWTICO/>

<sup>15</sup> <https://fred.stlouisfed.org/series/DCOILBRETEU>

<sup>16</sup> [https://www.eia.gov/dnav/ng/ng\\_pri\\_sum\\_a\\_epg0\\_pg1\\_dmcf\\_a.htm](https://www.eia.gov/dnav/ng/ng_pri_sum_a_epg0_pg1_dmcf_a.htm)

## Supply Model: Cap-and-Invest and Complementary Policy Emissions Reductions

The supply model estimates the supply of allowances plus the supply of emissions abatement. In this document, abatement refers to economic activity that reduces greenhouse gas emissions. The supply curve consists of three main components:

- Non-price-responsive abatement – Reductions in emissions to account for abatement driven by policies other than the Cap-and-Invest Program.
- Price-responsive abatement – Additional emissions reductions driven by the Cap-and-Invest Program carbon price.
- Compliance Instruments – Allowances of various types that covered entities must acquire to cover their emissions.

The model predicts the price of allowances by estimating BAU emissions, reducing emissions to account for policy-driven emissions reductions, then examining how many and what type of allowances must be acquired to cover the remaining emissions.

If “standard” allowances (allowances sold at quarterly auctions, distributed through no-cost allocation<sup>17</sup>, and banked allowances<sup>18</sup>) are enough to meet the demand, then the modeled price is estimated at the price floor. If allowances from cost containment (APCR or price ceiling units) are required, then the price rises to those rates.

In setting the price, the current model assumes that the behavior of market participants is myopic, meaning that the prices do not arrive at the price ceiling until demand for allowances meets or exceeds the supply of allowances.<sup>19</sup>

### *Non-price-responsive emissions reductions (abatement)*

Non-price-responsive abatement represents greenhouse gas reductions driven by other climate policies in Washington, outside of Cap-and-Invest.

Ecology expects other policies, such as CETA and CFS, to impact overall emissions. For example, fuel suppliers that might be incentivized to invest in low carbon transportation fuels to reduce allowance purchases may have made some of those investments due to CFS.

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<sup>17</sup> Under the Climate Commitment Act, electric utilities, natural gas utilities, and emissions-intensive, trade exposed industries receive allowances at no cost. Each of these groups receives differing amounts of no-cost allowances and is subject to different requirements on how they use their no-cost allowances.

<sup>18</sup> “Banked” or “unused” allowances are allowances that market participants have in their accounts because they have not needed to use them for compliance.

<sup>19</sup> The UC Team notes that this assumption is a departure from previous versions of the model which have assumed that participants will engage in arbitrage related to any differences between current prices and expectations of real future allowance prices. The current implementation assumes that prices will be based only upon the current year’s cumulative net supply of allowances, including any allowances banked from previous years. The myopia assumption appears to be more consistent with current behavior observed in the joint CA-QC market.

This section provides background on other climate policies in Washington that will reduce greenhouse gas emissions. Appendix F Table 2 presents emissions abatement assumptions for the economic sectors impacted by those policies.

### Clean Fuel Standard

The Clean Fuel Standard<sup>20</sup> is a market-based program in Washington designed to reduce greenhouse gas emissions from gasoline, diesel, and other high-emitting transportation fuels. The goal of the Program is to reduce the average carbon intensity (CI) of transportation fuels by 45% by 2038. A CI Score is a measure of emissions based on a fuel's lifecycle greenhouse gas emissions. Every year there is a CI "standard" that gradually declines. Fuels with a carbon intensity lower than the standard generate credits while fuels with a higher carbon intensity generate deficits. Companies subject to CFS must balance their account each year by purchasing or retiring credits to eliminate deficits. In addition to supplying fuels lower than the standard, credits can also be generated via residential and commercial transportation electrification, installing electric vehicle charging or hydrogen stations, and by public agencies funding zero emission vehicle (ZEV) projects.

### Clean Energy Transformation Act

The Clean Energy Transformation Act (CETA)<sup>21</sup> requires that by 2045, 100% of applicable electricity supplied to Washington must be met with renewable and non-emitting energy resources. By 2030, CETA sets a Greenhouse Gas Neutral Standard, meaning that utilities and other covered entities must procure renewable or non-emitting energy in an amount greater than or equal to 80% of retail sales during each four-year compliance period.<sup>22</sup> The remaining 20% may be met with alternative compliance options, such as unbundled Renewable Energy Credits. CETA requires electric utilities to submit Clean Energy Implementation Plans to the Washington Utilities and Transportation Commission or the Department of Commerce. CETA allows utilities to be in compliance without meeting the 2030 or 2045 standards if incremental spending toward meeting the standard exceeds 2% of a utility's revenue requirement.<sup>23</sup> It also requires an equitable distribution of the benefits from the transition to clean energy for all utility customers and adds and expands energy assistance programs for low-income customers.

### Zero Emission Vehicles

Washington's Legislature in 2020 adopted California's vehicle emission standards, directing Ecology to adopt rules to implement and maintain consistency with the California standards. These standards were designed to transition most new on-road vehicle sales to zero-emission technology by 2035. Although Ecology is not currently enforcing several of these standards due to litigation, Washington state continues to support zero-emission vehicle adoption. Washington has invested state and federal dollars in expanding charging and hydrogen

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<sup>20</sup> <https://ecology.wa.gov/air-climate/reducing-greenhouse-gas-emissions/clean-fuel-standard>

<sup>21</sup> <https://www.commerce.wa.gov/energy-policy/electricity-policy/ceta/>

<sup>22</sup> As detailed in Appendix F Table 2, the model assumes 80% of sales corresponds to 74% of generation, assuming a 6% transmission loss. This does not necessarily correspond with the resource mix utilities may be required to use under CETA.

<sup>23</sup> The revenue requirement is the total amount an investor-owned utility is permitted to collect from customers to cover costs and earn a return.

refueling infrastructure, offers rebates and tax credits for zero-emission vehicles, and provides credits for electric vehicle charging and hydrogen refueling through the Clean Fuel Standard. Through the ZEvergreen effort, announced in September 2025, the state is currently exploring additional strategies to deliver on the transportation electrification targets set by the state's Electric Vehicle Council.

#### Assumptions for non-price-responsive abatement

Appendix F Table 2 presents the assumptions driving non-price-responsive emissions abatement in the model. These assumptions are shown in the second column of Appendix F Table 2. However, as part of the Monte Carlo simulation discussed in the Business-as-Usual Emissions Model section, the model simulates the degree to which these goals are achieved. The UC Team assigns probabilities in the simulation using Beta (2,2) probability distributions.<sup>24</sup> The fourth column provides these distributions while the third column provides the average outcomes for these distributions. For example, the model assumes that 100% of cars will be zero emission vehicles (ZEV) by 2050. However, the model adds uncertainty to this assumption by assigning a probability representing the likelihood of reaching that target for each draw of the simulation. As described in Appendix F Table 2, the average result of the simulation is that 75% of cars will be ZEVs by 2050.

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<sup>24</sup> Beta (2,2) distributions are a type of probability distributions where the most likely outcome is half of the assumed value and there is a bell curve around that most likely outcome. For example, the model assumes a target that 100% of cars will be zero emission vehicles (ZEV) by 2050. The probability weight is  $0.6 + 0.4 * \text{Beta}(2,2)$ . This results in an average outcome of .75, with the simulated draws forming a bell curve around 0.75. Applying that probability to the 100% target results in an average outcome that 75% of cars will be ZEV by 2050.

Appendix F Table 2. Assumptions for Non-Price Responsive Emissions Abatement

Assumption name <sup>1</sup> (and related policies)	Assumption target	Probability in simulation	Average outcome in simulation ( <i>Assumption Target*Distribution Mean</i> )
Renewable or non-emitting electricity (CETA)	74% of the generation and 80% of electricity sales are met by carbon-free sources and the remainder by natural gas starting in 2030.	<i>Distribution:</i> 0.75 + beta(2,2) x 0.25 <i>Distribution Mean:</i> 87.5%	65% of generation starting in 2030 is met by carbon free sources and the remainder by natural gas
Renewable and Biodiesel (CFS)	100% of Diesel is Renewable Diesel or Biodiesel by 2042	<i>Distribution:</i> 0.6 + beta(2,2) x 0.4 <i>Distribution Mean:</i> 80%	80% of Diesel is Renewable Diesel or Biodiesel by 2042
Zero Emissions Vehicles (ZEVs)	Fleet is 100% ZEVs by 2050	<i>Distribution:</i> 0.5 + beta(2,2) x 0.5 <i>Distribution Mean:</i> 75%	Fleet is 75% ZEVs by 2050
Increased Electricity Load from Transportation	0.32 kWh per mile x VMT x ZEV share of fleet	<i>Distribution:</i> 0.5 + beta(2,2) x 0.5 <i>Distribution Mean:</i> 75%	Varies based on formula
Decreased load from Natural Gas	Reduction of 2.9% per year in residential and commercial natural gas	<i>Distribution:</i> 0.25 + beta(2,2) x 0.75 <i>Distribution Mean:</i> 62.5%	1.81% reduction per year in residential and commercial natural gas
Increased Electricity Load from Residential and Commercial HVAC	1.86 MWh per ton of residential or commercial natural gas abated	N/A	N/A
Industrial Emissions	No additional decline from BAU	N/A	N/A

<sup>1</sup> The model assumes that the complimentary policies discussed earlier in this section substantially contribute to these assumptions. For example, electrification of Washington’s fleet is driven by policy incentives from both the ZEV and CFS Programs.

### *Price-responsive emissions reduction (abatement)*

The Cap-and-Invest Program is a market-based policy that requires that covered entities acquire allowances equal to their greenhouse gas emissions, effectively placing a cost on emitting greenhouse gases. This may result in businesses and consumers factoring in price changes from this additional cost when making spending choices. As the cap decreases, this upward price pressure on carbon-emitting economic activity will increase.

The primary price-response mechanism used in the supply model is the feedback between energy consumption and changes to energy prices due to Cap-and-Invest. In economics, elasticities depict the percentage change of one variable in response to another. The UC team uses elasticities of energy markets to estimate emissions abatement resulting from allowance value.

### *Compliance Instruments*

The primary compliance instrument in Washington's Cap-and-Invest Program is an allowance. One allowance is a compliance instrument used to demonstrate compliance for the emission of one metric ton of carbon dioxide equivalent (MT CO<sub>2</sub>e). The availability of allowances decreases over time as Ecology reduces the annual allowance budget to align sectors covered by the Cap-and-Invest Program with statewide greenhouse gas limits.<sup>25</sup>

The Program also includes the Allowance Price Containment Reserve (APCR), a cost-containment measure. The APCR is a separate pool of allowances pulled aside from future allowance budgets and therefore those APCR allowances are still "under the cap." APCR allowances are only released into the market when a) quarterly auction prices reach a specified threshold; b) new entities enter the Cap-and-Invest Program and specific conditions are met; and c) once a year, prior to each compliance deadline. This is a cost containment mechanism designed to ensure covered entities can obtain allowances at predetermined prices, if needed.

Another cost containment mechanism is the price ceiling unit (PCU). Covered entities are permitted to purchase as many PCUs as they need to cover their emissions obligation at the end of the compliance period, if all other avenues to purchase allowances have been exhausted and they have an outstanding compliance obligation. PCUs are not part of the Program allowance budget and therefore represent emissions above the cap. The CCA accounts for this by requiring that proceeds from the sale of PCUs are applied towards corresponding emissions reductions on at least a ton-for-ton basis.<sup>26</sup>

The Cap-and-Invest Program also allows covered entities to use offset credits<sup>27</sup> for a portion (currently up to 8%) of their compliance obligation. The CCA requires that offset projects result in greenhouse gas reductions that are real, permanent, quantifiable, verifiable, and enforceable. In Washington, offsets are 'under the cap' – meaning that Ecology removes

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<sup>25</sup> Sectors that are covered by the Cap-and-Invest Program make up approximately 70% of state-wide emissions. The Climate Commitment Act directs Ecology to set allowance budgets that decline on a yearly basis to ensure covered sectors' emissions are consistent with the emission limits in statute. RCW 70A.65.070(2).

<sup>26</sup> RCW 70A.65.160(3)

<sup>27</sup> <https://ecology.wa.gov/air-climate/climate-commitment-act/cap-and-invest/offsets>

allowances from future allowance budgets equivalent to the number of offset credits used by covered entities. Because of this, the use of offset credits is not separately factored into this model.

Under the CCA, electric utilities, natural gas utilities, and emissions-intensive, trade exposed (EITE) industries currently receive allowances at no cost. Each of these groups receives differing amounts of no-cost allowances and is subject to specific requirements regarding how they use their no-cost allowances. For example, no-cost allowance allocation for electric and natural gas utilities is designed to mitigate the cost impacts of the Cap-and-Invest Program on utility retail customers. No-cost allowances are taken from the annual allowance budgets. Therefore, they are included in the model, but are not separately modeled from other allowances. The model assumes that the utility customer benefits of allocation are returned as lump-sum payments and therefore do not dilute the impact of allowance prices on retail electricity or natural gas prices. This assumption is purely for modeling purposes and does not necessarily reflect statute or current activity.

The UC Team does not model the various types of compliance instruments differently. They are each treated as a means to account for one metric ton of greenhouse gas emissions.

#### *Combined supply model*

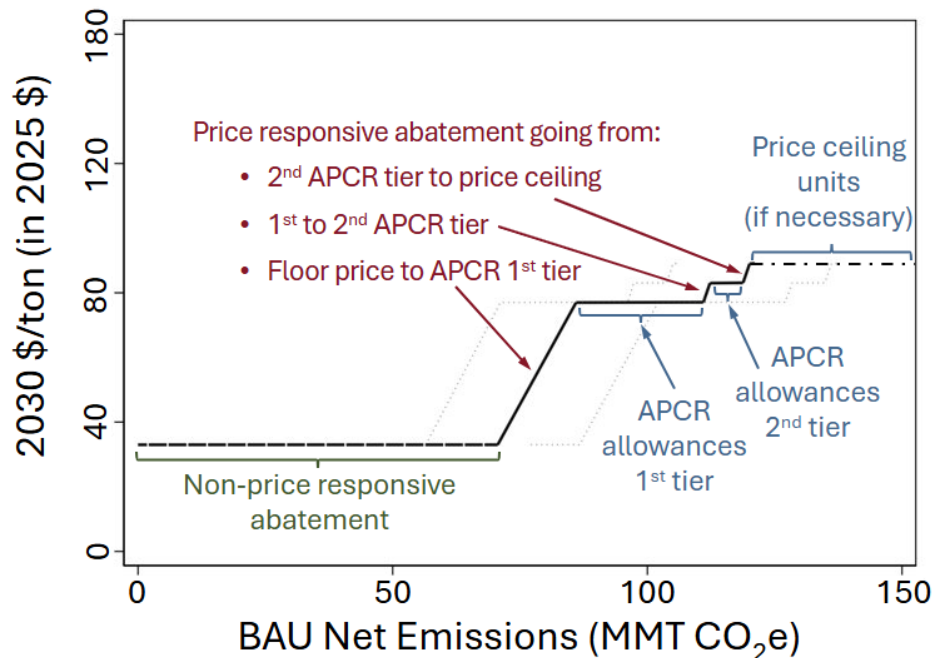
The supply curve combines the supply of allowances with the supply of emissions abatement. The model then determines the allowance price by intersecting the BAU emissions result with the supply curve.

If the combination of non-price-responsive abatement and “standard” allowances (allowances sold at quarterly auctions, distributed through no-cost allocation, and banked allowances<sup>28</sup>) are enough to meet the BAU emissions, then the modeled price is estimated at the price floor. If allowances from cost containment (APCR or price ceiling units) are needed to meet BAU emissions, then the model estimates the price at or near the relevant step of cost containment. The amount of price-responsive emissions abatement depends on the allowance price. An allowance price estimated at the ceiling or APCR drives more price-responsive abatement than an allowance price estimated at the floor.

Appendix F Figure 1 shows the supply curve for Washington from 2023-2030. To simplify the illustration, the supply curve is shown net of “standard” allowances (i.e. standard allowances are subtracted out). As the allowance price increases on the vertical axis, the supply of emissions abatement also increases. The bottom portion of the curve—shown at the price floor—depicts the non-price-responsive emissions abatement. The other three horizontal lines represent the additional allowances that become available at the APCR 1<sup>st</sup> tier, APCR 2<sup>nd</sup> tier, and the price ceiling. The emissions shown when abatement goes from one tier to another in the figure indicate price-responsive emissions abatement (see label on graph).

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<sup>28</sup> “Banked” or “unused” allowances are allowances that market participants have in their accounts because they have not needed to use them for compliance.



Emissions in figure are net of “standard” allowances

Appendix F Figure 1: Washington Supply Model – Compliance Instruments, Price Responsive, and Non-Price Responsive Abatement cumulative through 2030

### Linkage Model

In order to estimate the linkage scenario, the University of California team created a model of the California-Québec market with a parallel structure to the Washington model. It leverages the same methodology for California. For Québec, the model incorporates a simplified method to estimate the net demand of California-Québec market allowances used by the province.

To create the linked model, the UC Team combined the allowance demand and supply forecasts for the Washington and California-Québec markets to generate a combined allowance supply and demand forecast, and from this derived a combined price forecast. In the standalone model, the allowance price for the Washington market is determined separately. A standalone price for the California-Québec market is also determined separately for purposes of comparison. Non-price-responsive abatement is forecast using the same methods in the linked and standalone models. However, the emissions from price responsive abatement varies because the allowance price determinations are different between the two scenarios.

## Results and Discussion

This section provides discussion of the modeling results only as they pertain to linkage. It includes allowance price results and greenhouse gas emissions results. Ecology plans to release additional modeling scenarios, results, and analysis later in 2026 pursuant to the requirements of HB 1975—and also once Washington, California, and Québec have completed their respective rulemakings and more future market parameters are known.

As noted above, this model takes a conservative approach and may overestimate future greenhouse gas emissions because it does not account for emission reductions from CCA

investments, has variable expectations of reductions from other complementary policies, and does not predict new technology innovations.

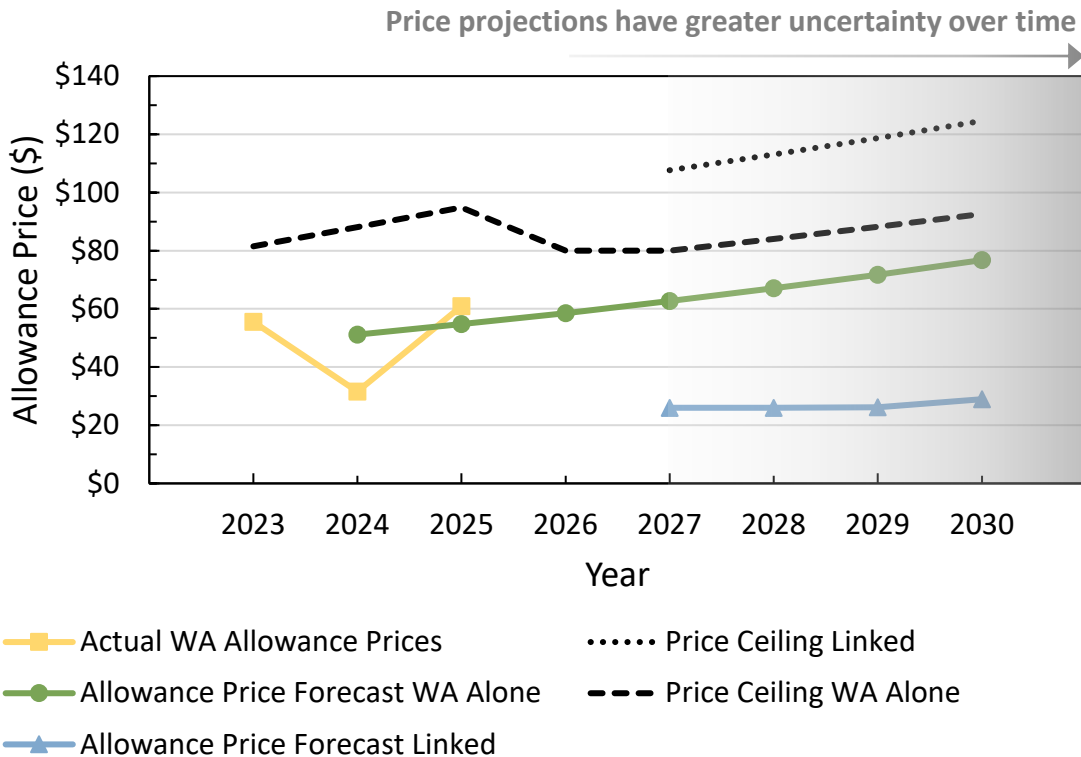
### **Allowance Price Estimates**

The objective of this section is to examine how linkage with the California-Québec market may affect the allowance price. Ecology conducted a net present value analysis to compare the standalone versus linked scenarios over the modeled time period (through 2030). Ecology found a lower total cost of allowances over the modeled time frame in a linked market compared to a standalone market – Washington covered entities pay 61% less for allowances in the linked scenario as compared to the standalone scenario.<sup>29</sup>

Appendix F Figure 2 presents the average year-by-year allowance prices for the standalone and linked scenarios. The California-Québec market has been active since 2013. Historically, emissions in that market have fallen below the limits in those programs, so the supply of allowances in that joint market has exceeded demand for allowances. This has created a supply of banked allowances in the California-Québec market. The model estimates that this bank of allowances—combined with the larger number of allowances available relative to forecasted emissions—would reduce the cost of allowances in the linked market as compared to the Washington standalone market in the near term after linkage.

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<sup>29</sup> A net present value analysis was conducted with at 7% discount rate based on the private cost of capital adjustment (discussed following Appendix F Figure 2).



Appendix F Figure 2: Washington Standalone vs Linked Market Modeled Price Trajectories<sup>30</sup>

The results also incorporate a 7% private cost of capital adjustment. The rationale behind the cost of capital adjustment is the assumption that, from the perspective of covered entities, the rate of return on investments exceeds the 5% growth rate of the price ceiling. This implies that if a covered entity expects the price to be at the ceiling in the future, it will not be worthwhile for them to pay the full ceiling price in the present.

### Greenhouse Gas Emissions Estimates

There are two key estimates of greenhouse gas emissions in the model:

- 1) The first is BAU (business-as-usual) emissions. As described in the section: *Business-as-Usual Emissions Model*, BAU emissions represent emissions in a future where emissions continue on their current trajectory, without influence from the Cap-and-Invest Program or other climate policies.
- 2) The second estimate of emissions is net emissions. Net emissions capture the difference between BAU emissions and abatement included in the model—both price responsive and non-price responsive abatement. Net emissions are calculated by subtracting the emissions impact both of the energy elasticities discussed in the section: *Price-responsive emissions reduction (abatement)*, and of the climate policy assumptions

<sup>30</sup> The model uses different price ceilings in the two scenarios. In the standalone scenario, the model reflects changes to the price ceiling from House Bill 1975 <https://lawfilesexternal.wa.gov/biennium/2025-26/Pdf/Bills/Session%20Laws/House/1975-S2.SL.pdf?q=20260414134015>

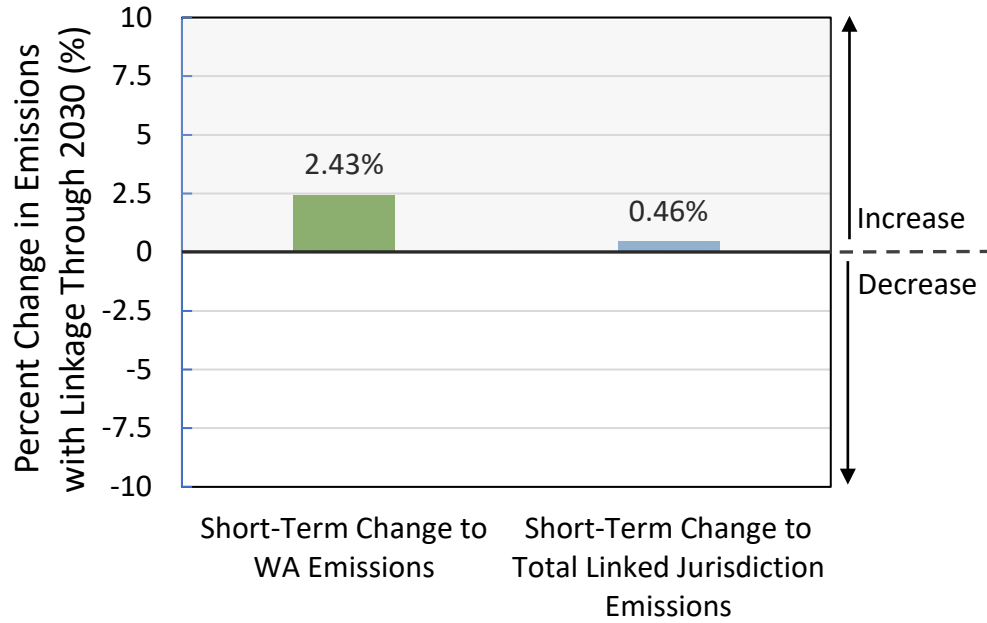
detailed in Appendix F Table 2. However, net emissions do not include emissions reductions from the “invest” side of the Cap-and-Invest Program or new innovations that might drive decarbonization beyond the metrics reflected in the assumptions in Appendix F Table 2.

Appendix F Figure 3 examines the impact of linkage on net emissions by showing the difference in cumulative greenhouse gas emissions through 2030 between the linked and standalone markets, separately for Washington and the combined emissions from the linked jurisdictions.

The bar depicting the change to Washington emissions, shown in green, represents the difference between cumulative emissions in Washington between 2027-2030 in the standalone scenario from the same metric in the linked scenario. The blue bar displays this figure for the combined emissions of the overall linked market—inclusive of Washington, California, and Québec. A positive result indicates there are more emissions in the linked scenario.

The modeling shows comparable greenhouse gas emissions reductions between the standalone and linked scenarios, for both Washington and the overall linked market. The model results indicate that, through 2030, linkage delivers a similar benefit to the environment in terms of climate change mitigation with lower allowance costs.

In Appendix F Figure 3, non-price responsive abatement does not differ between the linked and standalone scenario. Therefore, these emissions reflect only price-responsive abatement. The results are driven by the dynamic that a lower allowance price in the linked market from 2027 to 2030 induces a smaller price response, thereby reducing the magnitude of emissions reductions in the jurisdictions. Washington’s emissions covered by the Program through 2030 are 2.43% greater in the linked scenario. The emissions covered by the programs that would make up the total linked market (includes Washington, California, and Québec) are 0.46% greater in the linked scenario through 2030. However, Ecology expects that linking will lead to greater net emissions reductions over the long term across the total linked jurisdiction based on the analysis included in Sections 3.3 and 4.3.



*Appendix F Figure 3: Percentage Change of Cumulative Emissions (2027-2030) between Linked and Standalone Scenarios for Washington and linked jurisdictions*

# Appendix G: Memo on Treatment of CA/QC Allowances in a CA/QC/WA Linked Market



**DATE:** March 10, 2026  
**TO:** WA  
**FROM:** Monitoring Analytics  
**SUBJECT:** Treatment of CA/QC allowances in a CA/QC/WA Linked Market

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Monitoring Analytics (MA), in its role as the Independent Market Monitor (IMM) for WCI, was asked to comment on proposals to restrict the use of CA/QC linked market allowances of vintages that predate a planned linkage of Washington (WA) with the CA/QC linked market (called banked allowances in the proposals). Concerns have been raised that allowing the use of CA/QC linked allowances from vintages that predate WA joining the CA/QC/WA linked market (banked allowances) would reduce the ability of WA to meet greenhouse gas emission reductions goals within its borders. For purposes of this memo, CA/QC vintages that would be allowed to be used to meet WA obligation requirements under the WA's vintage restriction proposals will be referred to as non-banked allowances.

To address the concerns about the use of banked allowances, three options for modifying the use of banked allowances in a linked market have been brought forward: (1) discounting compliance values of banked allowances, based on their vintage; (2) restricting the use of allowances banked prior to linkage; and (3) establishing an expiration date for banked allowances.<sup>1</sup>

It is the IMM's opinion that none of these options will result in the desired effect under the linked market because the total number of allowances (the total linked budget) is not changed by any of the proposed measures to restrict the use of banked allowances. Each of these proposals will make the linked market less efficient than it could be due to increased transaction related costs for WA covered entities. All three proposals are designed to restrict the use of banked allowances will tend to increase the compliance cost of WA entities relative to CA/QC entities under a linked market.

If WA discounts banked allowances, WA entities will have to use more banked allowances to meet their obligations than if they used nonbanked allowances. This will increase the cost of compliance of WA entities relative to CA and QC entities in the linked market. If the discounting of banked allowances makes it cheaper to replace the banked allowances with nonbanked allowances in the secondary market than to use them for compliance purposes, WA entities will have an incentive to sell banked allowances to CA and QC entities and buy non banked vintage allowances. If WA entities sell their banked allowances to CA and QC

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<sup>1</sup> [https://media.rff.org/documents/Report\\_25-05\\_K1qtc92.pdf](https://media.rff.org/documents/Report_25-05_K1qtc92.pdf)

entities, the total number of allowances and the total amount of emissions allowed within the linked market will remain the same with or without the restriction and with or without linkage. Whether the WA entities use the discounted banked allowances for compliance or replace them through market trades, the costs of compliance for WA entities will be higher than the costs of compliance for CA and QC entities.

If WA places an expiration date on banked allowances, banked allowances will be used prior to expiration by WA entities or they will be sold to CA and QC entities. In the event that WA entities are better off selling the banked allowances and buying non banked allowances to replace them, this will make the costs of compliance for WA entities higher than the costs of compliance for CA and QC entities. The total number of allowances and the total amount of emissions allowed within the linked market will remain the same with or without the restriction and with or without linkage.

If WA simply restricts the use of banked allowances by WA entities, this will cause non banked vintage allowances of any origin (CA/QC/WA) from the linked market to be used to meet WA obligations. Meanwhile, allowances of all vintages and any origin (CA/QC/WA) will be used to meet CA/QC obligations. WA entities will have to sell banked allowances to CA/QC entities and buy non banked allowances from CA/QC entities. These transactions will increase the cost of compliance for WA entities relative to the costs of compliance for CA/QC entities. The total number of allowances and the total amount of emissions allowed within the linked market will remain the same with or without the restriction and with or without linkage.

In a linked market, allowances are fungible between the linked jurisdictions and allowances will move to their highest value use among entities. Traded volume in WA market is only a small fraction of traded volume in CA/QC secondary markets. The volume weighted average secondary market price (on ICE) for WA allowances was 249.2 percent higher (December contract) than the linked CA/QC volume weighted secondary market price (December contract) for 2026 vintage allowances in the January 2, 2026 through February 26, 2026 period. Upon linkage it is expected that there will be a net flow of allowances from the currently lower priced CA/QC market to the currently higher priced WA. This movement of allowances will occur with or without vintage restrictions on the use of banked allowances by WA.

While total allowances across the jurisdictions will remain the same with or without the proposed banked allowance restrictions on WA entities, the proposed banked allowance restrictions on WA entities will negatively affect the efficiency gains of WA entities from WA joining the CA/QC/WA linked market relative to a market without these restrictions.

In the CA/QC linked allowance market banked allowances are bundled with current vintage (the current year's vintage) allowances in Current Vintage Auctions awards and in almost all

market transactions on ICE. In the linked February 2026 Auction, for instance, 2024 (13,217), 2025 (7,204,285) and 2026 (47,758,255) vintage allowances were sold in the current vintage auction. The standard current vintage ICE futures contract (CCA) can result in the transfer of allowances from any current year or prior year vintage from the seller to the buyer.<sup>2</sup> For instance, the California Carbon Allowance Vintage 2026 Future contract (the current reference contract for all futures trades) states:

“California Carbon Allowances acceptable for delivery are those issued as a limited authorization to emit up to one metric ton of CO<sub>2</sub> or CO<sub>2</sub> equivalent in the California Cap and Trade Program having a vintage corresponding to the calendar year of the expiring contract and allowances having a vintage of any year prior to the calendar year of the expiring contract. If the specified vintage year allowances do not exist in the California MTS at contract expiry, allowances of any prior vintage year or allowances of the earliest vintage year available in the California MTS shall be delivered.”<sup>3</sup>

By allowing current and prior vintage allowances to be used interchangeably, the linked CA/QC market has increased market liquidity (in terms of daily volume and open interest) relative to a market that does not allow the interchangeability among current and prior year vintages. Higher volume markets are associated with markets with higher market liquidity. Liquid markets are considered to be efficient markets because transactions costs (the cost of finding a trading partner at a mutual acceptable price) are lower in liquid markets than illiquid markets. A liquid market allows contracts to be traded between buyers and sellers without significantly changing the price of contract. The more liquid the market, the greater the volume of trade can occur without a significant change in the prices of the contract. ICE contracts that allow current and prior year vintage allowances to be delivered (CCA) have far more volume and open interest than single (specific) vintage contracts (CCAS).

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<sup>2</sup> Futures are financial contracts requiring parties to trade an asset at a specified future date and price. The buyer must buy, and the seller must sell the underlying asset at the agreed price, regardless of its market price at expiration. ICE lists the linked (CA and QC) market future contract for allowances as California Carbon Allowance (CCA). While called a CCA, the jurisdictional origin of the allowances delivered upon contract expiration (CA or QC) is irrelevant to the contract completion so long as the allowance is from a linked jurisdiction. In the case of the 2026 ICE futures market for CA and QC linked allowances, the standard contract is CCA V26 DEC 2026 Strip. CCA V26 DEC26 strip is a futures contract for one thousand (1,000) 2026 vintage year (2026) allowances (or older vintage, such as 2023 vintage) from QC or CA with a December delivery date (called the December Strip contract).

<sup>3</sup> <https://www.ice.com/products/82612870/California-Carbon-Allowance-Vintage-2026-Future>

Comparing the volume of the current vintage (multi vintage year contracts) December strip contracts (CCA V26 and CCA V27) to vintage specific (single vintage year contracts) December strip contracts (CCAS V27 and CCAS V28) from January 2, 2026 through February 26, 2026, shows that the multi vintage year contracts have significantly higher daily volume (number of daily trades) than vintage year specific contracts.<sup>4</sup> The daily average volume for CCA V26 (multi vintage year contract) was 3,532.77 versus the daily average volume for CCAS V27 of 32.31 (single vintage year contract).

There is a lot more market liquidity associated with “current vintage” (current plus prior vintage bundles) linked market contracts than linked vintage specific contracts. Further, the CA and QC linked market for CCA v26 has 7,881 percent more daily volume, on average, than the WA only WA v26 market, from January 1, 2026 through the February 6, 2026 period. There is a lot more liquidity in the CA/QC linked market than in the WA market. Considered together, this means that WA entities would be expected to have a relatively easy (but not costless) time selling any banked allowances they acquire from linked auctions or standard futures contract transactions (but this is a transaction that CA and QC entities would not need to make), but a more difficult (costly) time acquiring allowances that qualify as unbanked (a transaction that CA and QC entities do not need to make).

## **Conclusion**

Under the proposed banked allowance restrictions, if a WA entity buys current vintage allowances from the CA/QC/WA auction or from ICE, that WA entity will have to sell off any banked allowance vintages they receive (banked allowances are of no use to WA entities under the proposed rules). The WA entity will then have to acquire, through bilateral transactions or less liquid vintage (and/or jurisdiction) specific ICE contracts, the vintage specific allowances the WA entities can use to meet their obligations. If banked allowance restrictions require WA entities to conduct trades to filter their allowances awards from auctions and ICE contracts to exclude banked allowances, this is a cost on WA entities that will be caused by the proposed banked allowance restrictions that will not be realized by CA/QC entities in the linked market. If banked allowance restrictions require WA entities to conduct trades to filter their allowances awards from auctions and ICE contracts to exclude banked allowances, the cost savings to WA entities from joining the linked market will be lower than would occur if the proposed banked allowance restrictions were not in place.

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<sup>4</sup> CCA V26 DEC26 strip is a futures contract for one thousand (1,000) 2026 vintage year (2026) allowances (or older vintage, such as 2023 vintage) from QC or CA with a December delivery date (called the December Strip contract).