Washington Climate Commitment Act

Summary of economic and market modeling and analysis of the proposed cap and invest program

By

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Olympia, Washington

July 2022

Foreword

The Washington Legislature has made commitments to significantly reduce our state's greenhouse gas pollution over the next three decades. To help meet those commitments, the Legislature passed the Climate Commitment Act (CCA) in 2021. The CCA directs the Washington Department of Ecology to establish by Jan. 1, 2023, a comprehensive cap-and-invest program to cut carbon emissions.

To inform the agency's decision making as we develop rules to implement the program, Ecology engaged Vivid Economics – an internationally recognized firm with deep experience in analyzing carbon markets. Vivid Economics developed this independent market analysis that investigated potential economic effects from different approaches to establishing an emissions marketplace for Washington.

Although we did not ask Vivid Economics to make recommendations based on its research, there are clear policy implications from the analysis, particularly as it relates to linkage and price containment measures.

The Cap – Creating an efficient marketplace for businesses

The CCA creates a carbon marketplace for Washington businesses that produce significant amounts of greenhouse gas pollution.

Businesses covered by the program must report the amount of greenhouse gasses they emit and then obtain allowances equal to their emissions, primarily by participating in quarterly auctions hosted by Ecology. Each of these allowance units is equal to one metric ton of greenhouse gas emissions.

The CCA drives down pollution over time by capping the total number of allowances available, and then gradually lowering that cap year by year.

By creating a marketplace, the CCA allows businesses to find the most efficient means to reduce their emissions, incentivizing innovation and investment in new low-carbon industries and energy sources.

The Invest – Investing equitably in further reductions

The state will invest money made from selling allowances through auctions into projects that further reduce emissions. The money also will be invested in communities to prepare for the effects of climate change, and to address environmental justice by improving health and environmental protection in the areas most affected by pollution today.

Linking Washington's carbon market to similar programs

The Legislature envisioned connecting Washington's carbon market with similar programs in places like California and the Canadian province of Québec, and directed Ecology to pursue linkage if it benefits Washington businesses and communities. Combining these markets is projected to lower the price of compliance and support continued international efforts to reduce greenhouse gas emissions.

The formal process of exploring linkage will begin after the initial program rules are adopted this fall.

Protecting businesses and consumers

The Legislature knew that this cap-and-invest program would involve a range of important industries. With businesses and consumers in mind, they instructed Ecology to design the program to cut emissions while minimizing costs and protecting consumers, job growth and the economy.

Focusing on environmental justice

The Legislature included provisions in the CCA to eliminate inequities and improve air quality for overburdened communities. By learning from the experiences of other states and provinces that have similar programs, the CCA is designed to protect and support communities most likely to be harmed by climate change and air pollution.

Summary of findings

Vivid Economics modeled three different scenarios to determine the likely costs of allowances at auction when Washington’s program first launches in 2023.

It is important to recognize that the model does not guarantee a particular allowance price or the ultimate compliance costs for a business. Rather, the model predicts what initial allowance costs could be, based on the relevant information currently available and predictions about how market participants will conduct their business in the future. As Vivid Economics’ analysis notes, all economic modeling is based on a series of assumptions, meaning that no model is a perfect crystal ball. However, Vivid Economics has developed a tried-and-tested model that has been used to inform carbon-pricing systems around the world, and Ecology is confident in their analysis.

The Vivid Economics report covers only modeled allowance prices that emitters would likely pay when the program first launches in 2023; it does not model or project gas prices. Nor does it model the environmental and health benefits of driving down emissions, or the costs of failure to reduce emissions. This report only tells one narrow part of the story.

Two factors had the biggest impact on prices

Vivid Economics’ analysis showed that the decision of whether to link Washington’s program had the single biggest effect on allowance prices. Connecting Washington’s program to California and Québec would open a much larger market, meaning prices would be substantially lower than in other scenarios.

The Legislature established an expectation of linkage to other markets when it passed the Climate Commitment Act, and Ecology will begin exploring the benefits of linkage through a public process in the fall.

The report also found that the timing of when allowances would be added to a mechanism called the allowance price containment reserve (APCR) also had a major impact on projected allowance prices. The APCR holds aside a portion of each year’s allowance budget – typically 5% annually – creating a pool of allowances that can be brought into the market to prevent prices from going too high. The report found that if the APCR were “frontloaded” with several years’ worth of allowances right away, initial allowance prices would be reduced. Ecology is proposing the frontloaded approach in its current rulemaking.

With frontloaded market and expectation of linkage, initial allowance prices projected at $41 per metric ton

Vivid Economics found that if there is a credible expectation that Washington will link its carbon market with California's and Québec's markets by 2025, the initial price for allowances would be around $41 – whereas a market with neither of these features would result in prices more than 65% higher**.** The analysis clearly shows the economic benefits of exploring a linkage agreement between Washington's carbon markets and similar programs.

The report also noted that, with Washington linked to California and Québec, it is likely that the Washington allowance price would fall more closely in line with prices in the shared market, which is roughly five times the size of Washington's. Current allowance prices in the shared market are about $31.

Ecology will evaluate linkage starting in Fall 2022

In the CCA, the Legislature directs Ecology to "seek to enter into linkage agreements with other jurisdictions" after conducting a public input process and subject to making findings that confirm the benefits of linkage.

Ecology plans to begin this evaluation process in the fall of 2022 so a decision about linkage can be made quickly.

Committed to a program for all of Washington

Building a functional, transparent, and sustainable cap-and-invest program is crucial for Washington's efforts to combat climate change. We are committed to designing a system that delivers real benefits for communities in Washington and beyond.

We thank Vivid Economics for their insights and efforts in completing this analysis to help us in designing an effective pollution-reduction program.

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