

State Fact Sheet ■ January 2018

What Would Cap-and-Invest Mean for Oregon?

Oregon lawmakers are considering adopting an economy-wide, cap-and-invest program to meet the state's long-term greenhouse gas (GHG) reduction goals. On January 8, 2018, the Oregon House and Senate released cap-and-invest bills¹ that are expected to be taken up for a vote during the state's short legislative session. These bills are broadly based on Senate Bill 1070², introduced in 2017, which set a framework for reducing emissions in the state, while mitigating potential cost impacts and driving investment in clean energy projects.

Oregon is one of a dozen or so states and Canadian provinces taking steps to limit GHG emissions to address the threat of climate change. States in the Northeast have been working to strengthen the existing Regional Greenhouse Gas Initiative (RGGI) trading program through 2030. Virginia has proposed a trading program that would link with the RGGI market. New Jersey is expected to rejoin RGGI after Governor Chris Christie pulled the state out of the program in 2011. And, Ontario joined California and Quebec in the Western Climate Initiative (WCI) carbon market in 2018 after launching its own program in 2017.

This fact sheet explores what a cap-and-invest program could mean for Oregon based on analysis of SB 1070 and the draft House and Senate bills released by Senator Michael Dembrow and Representative Ken Helm ("2018 draft bills").

Overview of a Cap-and-Invest Program for Oregon

In the 2018 legislative session, which runs from February 5 to March 9, 2018, the Oregon state legislature is expected to take up proposals for a market-based emission trading program (or "cap-and-invest" program). A cap-and-invest approach would establish a declining cap on GHG emissions within the state, likely including emissions from electricity production, natural gas use, transportation fuel use, and large industrial sources of emissions. SB 1070 had proposed a long-term goal of reducing emissions at least 80 percent below 1990 levels by 2050,³ and the 2018 draft bills includes the same targets.⁴ Owners of covered facilities, such as power plants and natural gas companies, would be required to surrender an emissions "allowance" or offset credit for every ton of pollution they emit.¹ By establishing a market for allowances, this creates an incentive for companies to implement the most cost-effective compliance solutions. This market-based approach has been widely used in regulating air pollution emissions at both the state and federal level. In addition, the 2018 draft bills would both auction a portion of the allowances each year with the proceeds used to benefit consumers and encourage investments in low-carbon technologies.

In adopting a cap-and-invest approach, Oregon could potentially participate in a broader regional trading market—the Western Climate Initiative (WCI)—with California, Quebec, and Ontario. In fact, the 2018 draft

¹ Offsets represent real and verifiable emissions reductions achieved from sectors not covered under the cap. Emitters can obtain offsets and credit them toward their emissions allowance.

bills make clear that the state will have the opportunity to link with WCI in order to capture the benefits and flexibilities inherent in a regional trading program.

Appendix A provides a detailed summary of the key implementation details for the 2018 draft bills, including the reduction targets, sector coverage, allowance distribution method, and guidance on the distribution of auction proceeds. In Oregon, as elsewhere, the cap-and-invest approach is intended to complement programmatic GHG reduction policies, many of which are already in place at both state and local levels.

The following sections discuss more broadly what a cap-and-invest program would mean for Oregon.

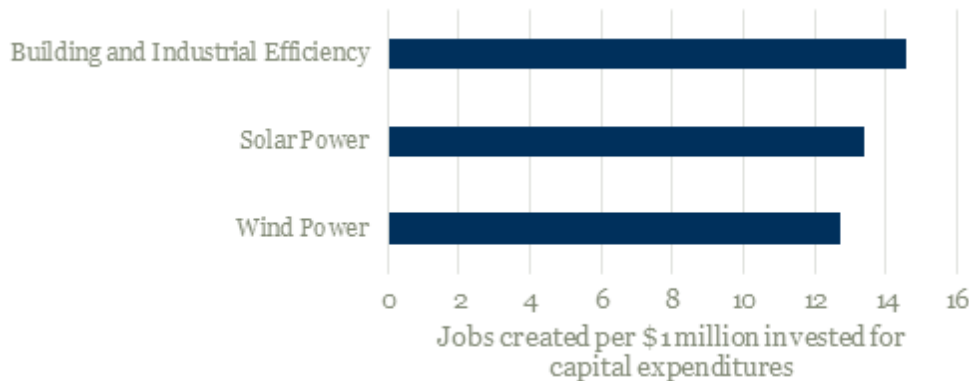
Potential Economic Impacts of Cap-and-Invest

One of the primary advantages of a cap-and-invest approach is the incentive it creates to deploy the most cost-effective reduction measures, thereby minimizing the overall costs of compliance. In the past few years, the Oregon Department of Environmental Quality (DEQ) has considered how a cap-and-invest program might be designed and the potential economic implications for the state. Analysis of SB 1070 suggests that the proposed cap-and-invest programs would have a modest effect on the state's projected economic growth. The analysis forecast of range of outcomes, from a modest decline in projected Gross State Product (-0.08 percent) to an increase in Gross State Product (+0.19 percent) in 2035, depending on a variety of assumptions including how the allowances would be allocated.⁵ Notably, the DEQ study found that if allowances are auctioned and the proceeds are returned to consumers, the program could have net employment benefits of between 915 and 6,578 jobs in 2035. Echoing this conclusion, two studies conducted by Portland State University (PSU) found that carbon pricing ranging from \$10-\$150 per ton could have a net positive impact on employment and labor income with the proceeds invested for consumer benefit.⁶ An additional analysis for the Oregon Global Warming Commission found that full implementation of existing climate policies coupled with carbon pricing starting at \$10 per ton and increasing to \$60 per ton by 2035 would be sufficient to put Oregon on a pathway to achieve its proposed 2035 emissions goal.⁷ The DEQ analysis and PSU studies did not quantify the potential benefits of mitigating the impacts of climate change or the economic cost of failing to act on climate, nor did they examine the potential public health co-benefits of improved air quality.ⁱⁱ

The U.S. Department of Energy estimates that the wind and solar industry employs over 8,000 people in the state and another 42,000 in energy efficiency-related jobs. In the last ten years, Oregon has installed 2,729 MW of wind generation (70 percent of total new generation in the same period).⁸ Oregon also has 280 MW of utility- and small-scale solar providing enough power to supply 35,000 homes. Investments in clean energy and energy efficiency have been found to create a significant number of jobs (Figure 1),⁹ with jobs in wind and solar being among the fastest growing in the nation. Since 2010, solar employment is reported to have risen by 300 percent.¹⁰ A well designed cap-and-invest program could further this job growth.

ⁱⁱ An industry-funded analysis of the proposed SB 1070, released in March 2017, concluded that an Oregon cap-and-invest program would lead to significant economic impacts. However, the study: (1) did not account for improvements, cost reductions, changes in electricity supply, or increased adoption of clean energy technology between now and 2035 in response to a carbon market; (2) did not include important cost-containment flexibilities such as offsets and linking to a regional carbon trading market; (3) assumes that little, if any, revenue raised from the auction of allowances would be returned to consumers or impacted businesses to cushion costs. Each of these factors in effect overstates costs and discounts important benefits for the state and its consumers. Further discussion, including concerns raised regarding key assumptions for this analysis can be found at: <https://www.e2.org/general/cap-invest-system-can-win-oregons-economy-climate/>.

Figure 1: Estimated national job benefits of investing in clean energy projects (Jobs created per \$1 million in public and private funds invested for capital projects) ^{iii,11}



The Potential Risks of Climate Change to Oregon

The Third Oregon Climate Assessment Report concluded that the state is already experiencing the impacts of climate change, and climate change is projected to yield wide-ranging damages on Oregon’s economy and the health of its citizens.¹² While the specific risks will vary across the state, sea level rise is predicted to increase the risk of coastal erosion and flooding along the coast, and warming waters and ocean acidification are projected to impact Oregon’s vibrant commercial fishing industry, which currently employs 15,000 and contributes \$489 million to Oregon’s economy.¹³ In the Willamette Valley, Cascade Range, and Eastern Oregon, declining snowpack may increase wildfire and water scarcity risks. These risks can affect Oregon’s forest resources—an industry that yields \$7.1 billion in revenue from wood products in the state each year, while also adversely affecting outdoor recreational activities and ecological health.¹⁴ The Climate Assessment notes that agriculture is one of the state’s largest industries as it generated nearly \$4.9 billion in gross agricultural products in 2012 and is linked to nearly 14 percent of Oregon jobs.¹⁵ However, climate change is likely to affect crop yields. For example, Oregon’s fruit, tree nut, and berry production, which is responsible for over \$500 million in sales annually, would be susceptible to heat and drought stress, changes in day and nighttime low temperatures, and water availability.¹⁶ Actions to reduce emissions and prepare the

ⁱⁱⁱ The estimates presented in this figure represent the job benefits that could result from public and private investment in clean energy projects. These estimates are on a national basis and not necessarily specific to the employment characteristics of Oregon. However, these estimates are indicative of the job benefits that could result from policies that reduce emissions and directs funds to clean energy and energy efficiency projects.

Key Outstanding Policy Decisions

While most of the core elements of the design and implementation the cap-and-invest program are proposed in the 2018 draft bills, there are some key issues that remain to be decided.¹⁸ Additionally, the bills leave discretion to the Environmental Quality Commission (EQC) to develop implementation guidance. Some of the major outstanding policy decisions include:

- **Distribution of Allowances:** The 2018 draft bills offer a set of principles for the distribution of emissions allowances. A key question is whether all of the allowances will be auctioned, with the proceeds used to further reduce greenhouse gases and benefit low income customers, or whether and what amount would be distributed at no cost to compliance entities, including utilities and emissions-intensive and trade-exposed industries (EITEs). The House and Senate drafts differ in some important allowance details that will have to be reconciled in the session.
- **Linkage:** The 2018 draft bills instruct EQC to develop the carbon market in a manner that allows for linkage with other markets, such as the Western Climate Initiative. However, the final decision to link will be made by the state through an evaluation process. In order to link with another state or region, EQC would need to notify the Governor of its intent to link, and the Governor would need to make the necessary findings and provide such findings to the Legislature. If linkage is pursued, one important issue will be to ensure the point of regulation is finalized in a way that facilitates such linking.
- **Treatment of Offsets:** The 2018 draft bills provide EQC with discretion to develop protocols for qualifying offset projects; however, the bill to be introduced in the House allows for up to 4 percent of a facility's compliance obligations to be met with offset credits while the Senate bill allows for up to 8 percent.
- **Definition of Emission-Intensive, Trade-Exposed Industries (EITEs):** The House version directs EQC to work with a third party to identify EITEs while the Senate version uses the North American Industry Classification System to define EITEs. Both, however, would provide allowances at no cost to EITE entities to cover up to 90 percent of the average emissions from these industries in the first year of the program, declining thereafter in proportion with the overall statewide cap.

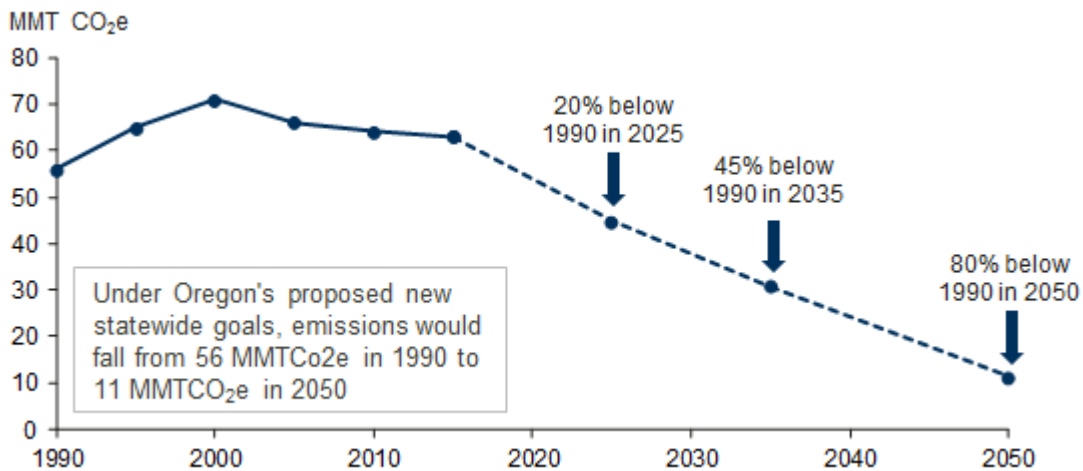
Appendix A

The following discussion provides a detailed summary of the key implementation details for the 2018 draft bills, including reduction targets; sector coverage; allowance distribution method; and guidelines on the distribution of allowance auction proceeds.

1. Reduction Targets in Oregon Cap-and-Invest Proposals

Oregon’s cap-and-invest proposals would repeal existing, non-binding state reduction targets set by the legislature in 2007^{iv} and replace them with more ambitious targets. These original targets aimed to peak emissions in 2010, cut emissions by 10 percent below 1990 levels by 2020, and reach 75 percent below 1990 levels by 2050.¹⁹ The proposed new targets aim to reduce state emissions 20 percent below 1990 levels by 2025, 45 percent by 2035, and at least 80 percent by 2050 (Figure a).

Figure a: Historic and Future Greenhouse Gas Emissions Consistent with Statewide Targets



Source: Historic Data from Oregon DEQ Greenhouse Gas Inventory (preliminary 2014 and 2015 data).

2. Major Sources of Emissions Covered Under the Cap-and-Invest Program

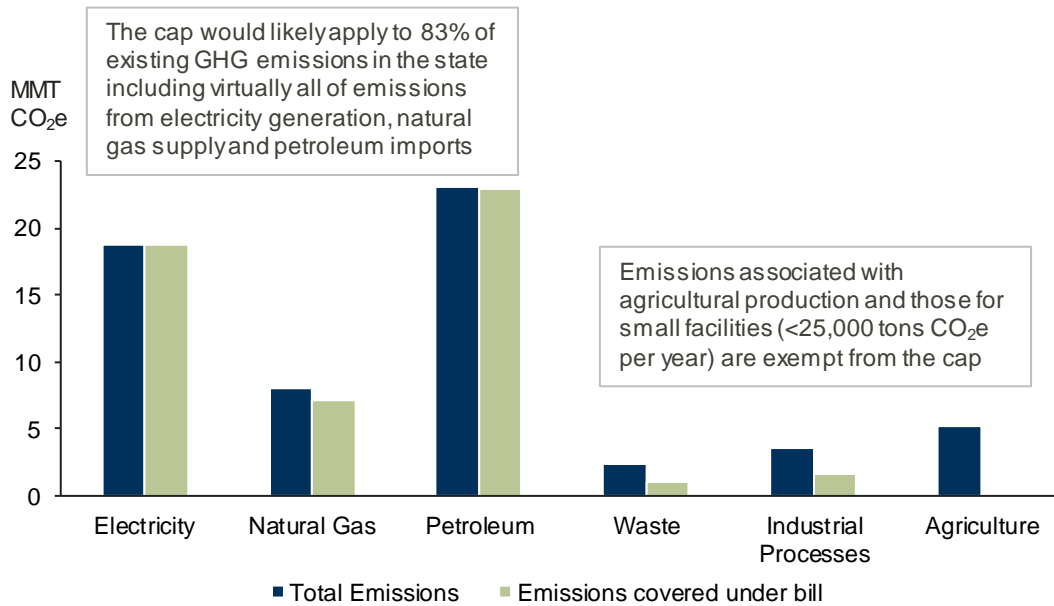
Oregon’s cap-and-invest program would cover approximately 83 percent of GHG emissions in the state and apply to sources that emit at least 25,000 metric tons of carbon dioxide equivalents (CO₂e) per year. Figure b illustrates the expected covered entities. The program would likely cover nearly all emissions from electricity generation, petroleum and natural gas supply, and 90 percent of emissions from large-scale industrial processes (cement, ammonia, pulp and paper, and glass production).²⁰ The cap would also cover emissions from large waste facilities, such as landfills, and large industrial facilities that emit high global warming potential gases. Emissions stemming from the agricultural and forestry sectors, and from small facilities in the industrial, natural gas, and waste sectors would be exempt from the cap.^v In addition, the program provides flexibility by allowing for a portion an entity’s compliance obligation to be met with offsets. While the commission will ultimately develop guidance for the treatment of offsets, the 2018 draft bills propose to encourage in-state offset opportunities and should consider

^{iv} Oregon met its 2010 goal—its emissions peaked in 1999—but is not on track to meet the current 2020 and 2050 goals, and has seen increases in transportation emissions since 2014.

^v Small scale industrial, natural gas and waste facilities are defined here as facilities that emit less than 25,000 metric tons of carbon dioxide equivalents per year. Waste facilities include waste water and waste incineration.

offset markets in other states. It is likely that, similar to California, Oregon would allow for offsets from agriculture and forestry related activities.

Figure b: Oregon Emissions and Expected Coverage under by Sector in 2015.



Source: Energy and Environmental Economics, "Memorandum on Macroeconomic Modeling," prepared for Oregon Department of Environmental Quality, February 2017, found at: <http://www.oregon.gov/deq/FilterDocs/app3memo.pdf>.

3. Allowance Distribution Method

Oregon’s cap-and-invest bills direct the EQC to establish rules for distributing allowances as well as auction a portion of allowances. The EQC would have the authority to allocate allowances to electric companies and natural gas utilities, which would in turn be sold through a consignment auction. A consignment auction provides a transparent system for the pricing and sale of allowances when the value is to be returned to ratepayers; this is the same approach used for electric and gas utilities and suppliers in California, as well as the approach proposed by the Virginia Department of Environmental Quality in its draft cap-and-trade regulations. The program would also direct the EQC to allocate allowances to emissions-intensive, trade exposed industries to address the potential for emissions leakage. The proposed legislation also requires the EQC to set aside a portion of the allowances in an “allowance price containment reserve”. This would be a set number of allowances, available for purchase by covered entities only, to limit compliance costs by injecting additional allowance supply into the market if the allowance price in the consignment auction hit the price set by the EQC (i.e., the minimum reserve price).

4. Auction Proceeds

The 2018 draft bills direct that proceeds from the allowance auctions be invested in programs that benefit consumers and impacted communities. The funds would be disbursed to the Transportation Decarbonization Investment Fund (for proceeds raised by the state through the auction of allowances that pertain to fuels used in motor vehicles), Oregon Climate Investments Fund (85 percent of remaining) and the Just Transition Fund (15 percent of remaining) to fund projects that are consistent with the goals of the cap-and-invest program.

For the Climate Investment Fund, at least 60 percent of these funds would go toward projects that are located in, or would benefit, impacted communities^{vi} (of which 33 percent must benefit rural areas that are impacted communities); 20 percent would be allocated for projects in natural and working lands; 20 percent would be directed to projects related to energy efficiency, electric grid decarbonization, transportation electrification, carbon sequestration, and adaptation or resilience.

Funds in the Just Transition Fund would be directed toward programs that provide financial support for workers dislocated or adversely affected by climate change or climate change policies.

Proceeds from the sale of “consignment allowances” (i.e., allocated to electric and natural gas utilities) must be invested in activities that reduce greenhouse gases or stabilize or reduce energy bills for customers. This may include providing bill assistance to low-income residential customers; all other customers including residential and small commercial customers as well as energy-intensive industrial customers; or investing in weatherization and energy efficiency projects.

^{vi} Impacted Communities would be defined by the EQC, in consultation with the Portland State University Population Research Center, the Oregon Health Authority, the program advisory committee, and other relevant agencies, considering low income households, high unemployment, low levels of homeownership, high rent burden, sensitive populations or low levels of educational attainment, and areas affected by environmental pollution.

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