



## Carbon Taxation

### Briefly

- SHB 1314, based on a proposal by Gov. Jay Inslee, would establish a cap and trade system to limit greenhouse gas emissions.
- Total state carbon emissions would be capped. Emission allowances would be bought and sold.
- Fuel suppliers, electricity importers, and large industrial plants would be among those required to pay for allowances to continue to operate.
- Cap and trade would act as a tax increase on these industries, with additional revenues going to transportation, education, tax credits for the working poor, among other programs.
- A second proposal comes from a group called Carbon Washington, who is planning an initiative campaign to impose a tax on carbon emissions.
- This carbon tax, unlike the cap and trade proposal, is intended to be revenue neutral.
- The new tax would be offset by an eventual 1 percent sales tax reduction and a reduced B&O tax on manufactured goods to be exported from the state.
- While the state may face large costs due to the impacts of global warming, neither of these plans would have a measurable effect on these costs.
- Putting a large price on carbon will raise the costs of living and doing business in this state.
- Successfully attacking the global warming problem requires the coordinated action of national governments.

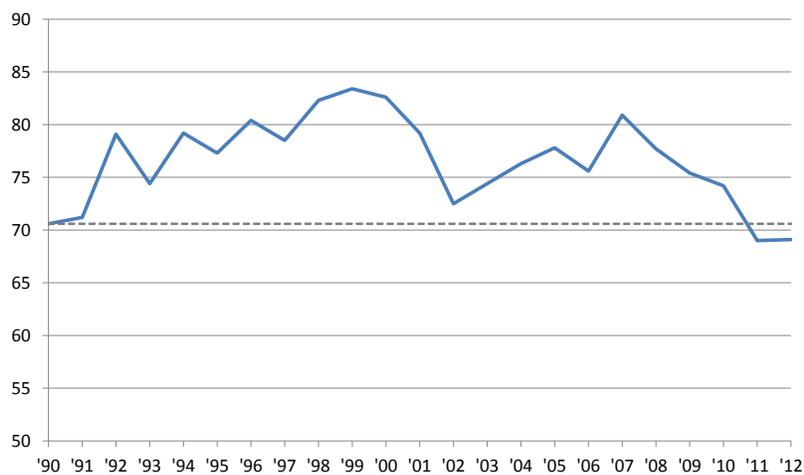
Many people worry that global warming due to accumulations of greenhouse gasses in the atmosphere will impose significant costs on the world economy in future years. Frustration with the lack of success on the national level has led to a push at the state level.

In 2008, the Legislature established goals to reduce emissions to 1990 amounts by 2020, to 25 percent below 1990 amounts by 2035 and to 50 percent below 1990 amounts by 2050. The 2008 legislation setting these goals included no enforcement mechanisms, however. Nevertheless, the U.S. Department of Energy calculates that 2012 emissions of carbon dioxide from burning fossil fuels in

Washington state were 2.1 percent lower than 1990 emissions. In 2011, the state reached an agreement with TransAlta Corporation to phase-out generation of electricity from coal at its Centralia plant. The plant's Unit 1 will stop using coal by the end of 2021; the plant's Unit 2, by the end of 2025.

At the present time two pieces of legislation are working their ways through the system. The first is a bill moving through the house, the second is an initiative. The bill, SHB 1314, would establish what is called a cap and trade system. This bill was initially proposed by Gov. Inslee. The initiative would impose a tax on carbon dioxide emissions.

Chart 1: Washington Carbon Dioxide Emissions from Fossil Fuel Consumption (million metric tons of CO<sub>2</sub>)



### Putting a price on greenhouse gas emissions

In the 1970s economists developed a powerful critique of the heavy handed command and control techniques being then being used to reduce pollution. They argued it would be possible to achieve much greater reductions in emissions at much lower costs if people who polluted were simply charged a price for doing so. The price would provide an incentive to reduce pollution. Decentralized decision-making would then lead to more cost effective decisions as to where and how to reduce pollution (Kneese and Schultze 1975).

The economist William Nordhaus explains advantages of the pricing approaches to regulation of carbon dioxide and other greenhouse gasses:

*To a first approximation, raising the price of carbon is a necessary and sufficient step for tackling global warming. The rest is at best rhetoric and may actually be harmful in inducing economic inefficiencies (Nordhaus 2008).*

There are two broad approaches to putting a price on greenhouse gas emissions: (1) a greenhouse gas tax and (2) a cap and trade system.

Under a greenhouse gas tax, the government simply levies a tax in proportion to the quantity of greenhouse gas emitted. The tax is the price. British Columbia currently has a carbon tax.

Under a cap and trade system, the government sets an annual limit for the amount of greenhouse gas emissions (the cap) and then sells or distributes emission allowances. Each allowance permits the holder to emit a fixed amount of greenhouse gasses (say one metric ton). Entities that emit greenhouse gasses then buy or sell allowances according to their needs (the trade). It is this trading that ultimately puts the price on carbon. Entities that find it very costly to reduce emissions can buy allowances from other entities for whom the cost of reduction is not so high. The opportunity to sell unneeded allowances at a profit provides an incentive to the low reduction cost entities further reduce their emissions.

Don't let the words confuse you. If the government auctions off all of the allowances, a cap and trade system is as much of a tax as direct greenhouse gas tax is.

California currently has a cap and trade system.

### The Inslee cap and trade bill

Governor Inslee's cap and trade proposal was introduced in the House as House Bill 1314 and in the Senate as Senate Bill 5283. The active bill is the one introduced in the House. It passed out of the House Environment Committee on February 10 and is now at the House Appropriations Committee. The Environment Committee made a number of changes to the bill, and it (now Substitute House Bill 1314) is still very much a work in progress.

SHB 1314 includes this statement of intent:

*The 2008 legislature established statewide emission limits that are to be achieved by 2020, 2035, and 2050, but did not enact a comprehensive*

*program to ensure that the emission reductions would be accomplished. The legislature intends to provide such a program by this act to meet Washington state's commitment to its present and future generations to fully address the climate change challenge.*

The cap and trade program established under SHB 1314 would be administered by the Department of Ecology (Ecology).

Ecology would set annual aggregate limits on emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases, tightening year by year, that would meet the annual goals established for 2020, 2035 and 2050. Gasses other than CO<sub>2</sub> would be measured in units equivalent to the global warming potential of carbon dioxide (CO<sub>2</sub>e).

The obligation to purchase allowances under the program would directly apply to a limited number of entities:

- Facilities that emit at least 25,000 metric tons of CO<sub>2</sub>e per year
- Importers of electricity with associated emissions that equal or exceed 25,000 metric tons of CO<sub>2</sub>e per year
- Suppliers of fuel that when burned would emit at least 25,000 tons CO<sub>2</sub>e per year
- Facilities that buy federal power with associated emissions that equal or exceed 25,000 metric tons of CO<sub>2</sub>e.

Although only a limited number of entities would be required to purchase allowances, the costs would be widely distributed. The cost of allowances purchased by electric utilities would be rolled into the rates customers pay for electricity. Similarly, fuel suppliers would pass allowances costs on to fuel purchasers: the cost of allowances paid by gasoline suppliers would roll forward into the prices paid by Washington motorists at the pump, and the cost of allowances paid by natural gas suppliers would roll forward into the natural gas rates homeowners pay. Sixty-seven percent of Washington's

carbon dioxide emissions come from the transportation and residential sectors.

Petroleum refinery facilities would need to purchase allowances for their direct emissions and for the fuels they supply. In the instances where these fuels are sold to out-of-state customers, it is unlikely that the refineries will be able to pass the cost of allowances forward. In the near term, the projected cost to refiners is about \$0.12 per gallon of product. From 2004 to 2014, North American refinery profits averaged less than \$0.20 per gallon (see EIA 2014). As a result, Washington refineries are likely to cut back production for export.

Ecology is charged with designing an auction system through which allowances would be auctioned off four times a year.

Compliance obligation would begin July 1, 2016.

Ecology provided estimates of auction revenue in the fiscal note for the bill.

The bill instructs Ecology to adopt by rule a minimum allowance price for the 2016 auctions and an annual schedule for the floor price to increase through the year 2026. In the fiscal note, Ecology assumes that the 2016 floor price would be \$12.60 per metric ton for 2016, with \$0.60 annual increases to the year 2020 followed by \$2.00 annual increases to the year 2026. Under this schedule the 2026 floor price would be \$27.00. Of course actual auction prices could be higher.

Assuming that the auction price is the floor price, Ecology estimates that revenue would be \$1,292 million FY 2017, \$1,323 million in FY 2018, \$1,352 million in FY 2019, \$1,378 million in 2020 and \$1,472 million in 2021.

### **Exemptions and credits**

As originally introduced, the bill provided exemptions for biofuel and biomass combustion emissions, municipal solid waste landfills, industrial waste landfills, industrial wastewater treatment facilities,

manure management facilities and the coal-fired electric generation facilities in Centralia. The House Environment Committee added to this list an exemption for aviation fuels burned in interstate or international flights.

The bill provides for a system of offset credits through which entities with compliance obligations under the cap and trade program could meet these obligations by funding projects that reduce greenhouse gas emissions from sources not covered by the cap and trade program. Initially, eligible projects would be limited to those that anaerobically digest organic waste, reduce ozone depleting substances, capture methane from mining and resource extraction activities, or sequester carbon through forestry or agriculture. Such projects must be in the United States, Canada or Mexico.

### **Use of the proceeds from auctioning allowances**

*Transportation.* Each year \$400 million of auction proceeds would be used for transportation. Priority is to be given to transit, other projects that will reduce greenhouse gas emissions, transportation system maintenance and safety.

*Education.* Forty percent of auction revenues (with a \$380 million minimum) would be directed to the education legacy trust account, from which funds could be appropriated only for educational purposes. This account currently receives proceeds from the estate tax.

*Working families tax credit.* Ten percent of auction proceeds (with a \$108 million annual minimum) would be used to fund the working families tax credit. This is a dormant transfer program targeting working poor families. The program was enacted in 2008, but has never been funded.

*Housing.* Two percent of auction revenues, up to a maximum of \$15.5 million in FY 2017, \$19.5 million in FY 2018 and \$20 million in subsequent fiscal years, will go into the housing trust fund. The Department of Commerce uses funds from

this account to provide grants and loans to organizations that provide housing for low-income and special needs populations

*Tax credit for impacted industries.* Two percent of auction revenues (with a \$20 million annual minimum) would be used to fund a business and occupation tax credit for energy intensive manufacturing businesses that experience competitive disadvantage selling to foreign markets due to the cap and trade program. The value of the credit would be one-half compliance costs incurred due to the cap and trade program. The total value of credits would be limited to the funding provided. The Department of Commerce would administer the tax credit.

*Rural economic development.* Two percent of auction revenues (with a \$20 million annual minimum) will be used by the Department of Commerce to expand market opportunities for Washington forest products and assist businesses in rural communities experiencing disproportionate impacts from the cap and trade program.

*Remainder.* All remaining funds are to be used for administrative expenses and clean energy investments.

### **OFM economic impact analysis**

The Office of Financial Management recently issued a "white paper" detailing the results of their attempt to model the economic impact of the original version of HB 1314. We are reviewing this report and will comment on it in a future publication.

### **Carbon Washington Initiative**

The group Carbon Washington intends to begin gathering signatures in March on an initiative to the Legislature regarding a carbon tax in Washington state. If a sufficient number of signatures are collected by December 31, the measure would go to the 2016 Legislature for consideration. If the Legislature does not adopt the measure as proposed, it would

then be placed before voters in the November 2016 general election. If approved by voters it would take effect on July 1, 2017.

The initiative includes this statement of intent:

*The intent of this act is to encourage sustainable economic growth with a phased-in one percentage point reduction of the state sales tax, a reduction of the business and occupation tax on manufacturing, and the implementation and enhancement of the existing working families' sales tax exemption for qualifying low-income persons, all funded by a phased-in carbon pollution tax on fossil fuels sold or used in this state and on the consumption or generation in this state of electricity generated by the consumption of fossil fuels.*

Fossil fuel is defined:

*"Fossil fuel" means petroleum products, motor vehicle fuel, special fuel, aircraft fuel, natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from these products, including without limitation still gas and petroleum residuals including bunker fuel.*

**Collection of the tax**

The tax would be imposed on fuels based upon their carbon content, beginning July 1, 2017. The initial rate of \$15 per metric ton of CO2 would step up to \$25 per metric ton on July 1, 2018. On every July 1 thereafter the rate would increase by 5.5 percent.

The Department of Revenue (DOR) would administer the tax. Administrative details would be designed by DOR and adopted by rule.

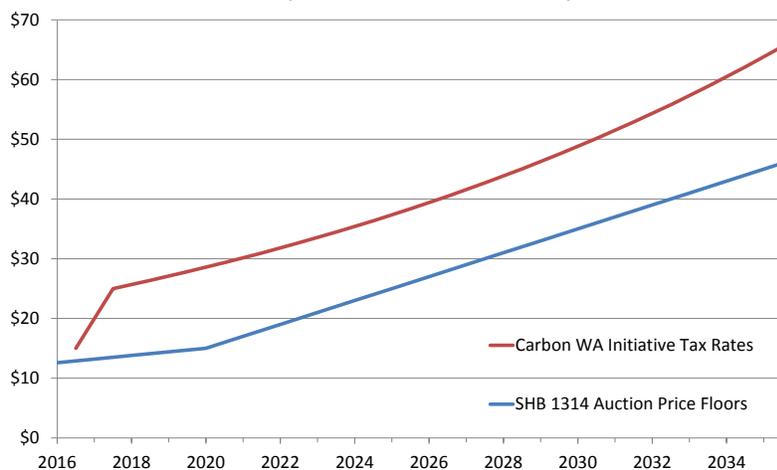
The initiative distinguishes three classes of fossil fuels: (1) fossil fuels used to generate electricity, (2) fossil fuels used to refine fossil fuels, and (3) other fossil fuels sold or used in the state.

*Fuels used to generate electricity.* In the case of fossil fuels used to produce electricity, DOR will prepare tables specifying rates for different fuels based on their carbon contents. Utilities are required to file monthly reports on the mix of fuels used and pay the tax due thereon. The tax would apply to fossil fuels used out of state to generate electricity imported into the state. Puget Sound Energy, Avista and PacifiCorp obtain electricity from the coal-fired generating plant at Colstrip, Montana.

*Fuels used by refineries.* In the case of fossil fuels consumed by refineries in the refining process, the refineries are required to file monthly reports on carbon dioxide emissions and pay the tax due thereon.

*Other fossil fuels.* In the cases of other fossil fuels, the obligation to remit the tax is generally placed on a seller who is already obliged to remit another tax on the fuel to the state: The carbon taxes for gasoline and diesel oil used on highways are to be collected in accordance with the motor vehicle fuel and special fuel taxes. The carbon tax on aircraft fuels is to be collected in accordance with the aircraft fuel tax. The carbon taxes on all other products derived from refining crude oil are to be collected in accordance with the petroleum products tax.

Chart 2: Prices on carbon under the initiative vs. auction price floors under SHB 1314's cap and trade system (dollars per metric ton)



For all other fossil fuels (e.g. natural gas and coal), the carbon tax is to be collected in accordance with the retail sales and use taxes.

Chart 2 compares the value of carbon tax under the initiative to Ecology's projected auction price floors under SHB 1314.

### **Exemptions, phase-ins and credits**

The initiative exempts fuels brought into the state in the fuel tank of a car, truck, boat, ship, locomotive or aircraft, fuel intended for export from the state and fuel upon which the carbon tax has already been paid.

The bill provides a forty-year phase-in for diesel or aircraft fuel used in agriculture, fuel used in public transportation, fuel used by the Washington state ferry system and fuel used in school buses.

For electricity imported into the state, a credit is provided for carbon taxes paid in another state.

### **Use of the carbon tax revenue**

*The working families tax exemption.* The initiative dedicates a portion of carbon tax revenues to fund this program. State law currently specifies the credit amount to be the greater of \$50 or 10 percent of the federal earned income tax credit granted to the family. For 2016 the initiative would raise the exemption amount to the greater of \$100 or 15 percent of the family's earned income tax credit. For 2017 and subsequent years, the initiative would raise the exemption amount to the greater of \$100 or 25 percent of the family's federal earned income tax credit.

*State sales tax.* The state sales tax rate is currently 6.5 percent. The initiative would reduce the state sales tax rate to 6.0 percent on July 1 2016 and then to 5.5 percent on July 1, 2017.

*B&O tax.* The initiative reduces the business and occupation (B&O) tax rate to 0.0001 percent for manufacturing activities. The basic manufacturing B&O rate is 0.484 percent, although about 40 percent of activities qualify for lower "preferential" rates.

This reduction would benefit only manufactured goods that are exported from the state, as those manufactured goods that are sold in the state are taxed under the wholesaling or retailing category, the rates for which would not be changed. In 2013 about 30 percent of B&O taxes paid by manufacturing firms came in under the manufacturing category.

### **Discussion**

SHB 1314 is unlikely to pass the Legislature this session. However, a very similar cap and trade system may well come before voters as an initiative in November 2016. And it could be joined on the ballot by Carbon Washington's carbon tax initiative.

What is distinctive about the problem of greenhouse gas emissions is its global nature. The damages from emissions from any particular facility are not concentrated near to that facility. While the state may face large costs due to global warming, there is little that the state can do by itself to avoid these costs. The introduction to SHB 1314 acknowledges the Washington accounts for "only a small part of the global emissions" but then offers the questionable assertion that reducing emissions unilaterally would provide "leadership and a model for action by other jurisdictions to address their own emissions."

From 1990 to 2012 worldwide emissions of CO<sub>2</sub> increased by 50 percent, from 21.6 trillion metric tons to 32.3 trillion metric tons. Emissions of the industrializing nations in Asia grew by far greater percentages: Singapore, 260 percent; China, 257 percent; Thailand, 246 percent; India, 216 percent; Malaysia, 205 percent; Indonesia, 192 percent; South Korea, 171 percent. In all these countries, carbon emissions are driven by economic development and economic development is driven by exports.

Putting a large price on carbon will raise the costs of living and doing business in this state. If we go it alone, much of the reduction we achieve here will be offset

by increases elsewhere. Pollution will be moved, but not reduced. Jobs will follow the pollution.

Successfully attacking the global warming problem requires the coordinated action of national governments. If the U.S. is to provide leadership on global warming, that leadership must come from Washington D.C. not Washington state.

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