

Carbon Reduction in Washington State

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Governor Jay Inslee signs executive order on greenhouse gas Emissions

Reductions at Shoreline community college. (www.opb.org)

Executive Summary

A carbon tax is a tax on fossil fuels intended to reduce the emission of carbon dioxide into the atmosphere. Carbon dioxide is one of the main factors contributing to the global warming epidemic our earth currently faces. A carbon tax is intended to help combat the warming effect by forcing polluters to take financial responsibility for the carbon dioxide they emit, with the ultimate goal of lowering emissions over time. It is not a new idea and many areas all over the world have already implemented their own form of carbon tax. Governor Inslee wants Washington to become apart of this trend and impose a carbon tax on the state that will cost the biggest polluters to be held financially responsible for their carbon emissions. This paper will summarize in full detail the carbon reduction plans governor Inslee has proposed, the fate and feasibility of those proposals, and the progress of the carbon tax in British Columbia.

Introduction

Governor Jay Robert Inslee is currently the 23rd governor of Washington state. He was sworn into office on January 16th 2013 succeeding Christine Gregor. Prior to becoming governor, Inslee was a democratic member of the U.S. house of representatives, representing Washington's first congressional district from 1999 until his resignation in 2012. During his time in congress Inslee built a reputation for himself as a progressive leader, especially on issues surrounding clean energy and carbon reduction (governor.wa.gov). As governor, Inslee's top priority is growing Washington's innovative industries and in these industries there has recently been a particular interest in clean energy. This paradigm shift from traditional to clean energy was sparked in congress around the same time Inslee came into office. With consequences of climate change slowly becoming a reality, fear has pressured many to finally bringing this important issue to the forefront of politics. Governor Inslee has been a key factor in fighting for a greener state, as he has helped push Washington into leading the nation's transition into a clean energy economy. In 2006 Washington passed I-937, The Clean Energy Initiative which ensured that at least 15 percent of the electricity Washington state gets from major utilities comes from renewable sources and that those utilities will reduce bills by getting all the cost-saving energy conservation available. Governor Inslee has made many accomplishments in order to stay true to this commitment; in 2014 the governor created a climate executive order that outlined steps to accomplish emissions reduction in Washington state.

What Is a Carbon Tax?

When trying to fathom what a carbon tax is, it is important to first understand what carbon is and how it is created, emitted into our atmosphere and the climate change consequences it exacerbates. The essence of all fossil fuels is carbon and hydrogen atoms; the bond between these two atoms creates the primary source of heat in fuel combustion. When productive combustion is achieved all the carbon atoms have converted into CO₂ (carbon dioxide). Carbon dioxide is a non-lethal gas that rises when released into our atmosphere and remains trapped in the ozone layer (also known as the greenhouse effect). Carbon dioxide is nearly transparent to solar radiation from the sun but does permeate thermal heat the earth emits. Similar to a greenhouse, carbon dioxide essentially traps the earth's heat in and allows the sun's radiation to enter into the earth's atmosphere. Another exacerbating effect that happens due to these events is that the earth's surface emits a portion of its energy upwards towards space as thermal radiation. As it is absorbed into the atmosphere, it is re-radiated by carbon dioxide molecules then returned into earth's surface, adding another source of heat. So how do we emit so much carbon? A portion of our emissions are directly linked to our everyday tasks; we use fossil fuels for everything from electricity to heat to the fuel we put into our cars, these being the minor emissions. The major emitter is the industry sector. Greenhouse gases produced during industrial production are split into two categories: direct emissions and indirect emissions. Direct emissions are produced by a number of practices such as burning fuel for power or heat, through chemical reactions and leaks from industrial processes or equipment. Indirect emissions are produced by burning fossil fuels at a power plant to make

electricity, which is then used by an industrial facility to power industrial buildings and machinery. There are a wide variety of industrial activities that causes greenhouse gas emissions and many opportunities to reduce them, one option being a carbon tax. A carbon tax is a fee based on one's carbon content and their carbon dioxide emissions when burned. It is effectively a tax on the carbon dioxide emissions from burning fossil fuels or a carbon pollution tax. So how do we measure emissions? There is a large misconception that we measure the CO2 emitted into the atmosphere, this is not necessarily true. Instead, you measure the the fuel that is burned. Different fuels will have different levels of carbon, depending on the type of fuel that is used from this you can then calculate the amount of carbon you have emitted. The government then sets a price per ton on carbon which will ultimately translate as a tax on electricity, natural gas or oil.

Governor Inslee's 2014 Carbon Reduction Plan

In 2014 Governor Jay Inslee established the Carbon Emissions Reduction Taskforce aka CERT. CERT was composed of 21 members from the business, health, labor, public interest, federal, local and tribal entities. Their main goal was to design and implement a market based carbon pollution program as well as advise the governor on issues surrounding Washington's carbon emissions. On December 16th 2014 Governor Inslee made his carbon tax proposal to the 2015 legislature based on the CERT's report (CERT). The proposal, is a tax on Washington's target polluters, which are responsible for 85% of the state's overall emissions. This would force all major polluters in the state's oil and gas industry to pay for the pollution they contribute. If implemented successfully, it is projected that over the next 12 years the revenue from the

carbon tax would equal close to \$4.8 billion which the governor intended to use on several of the state's major transportation projects including the completion of state route 520 overhaul, upgrading I-405, finishing work on state routes 509 and 167, tackling I-5 congestion at Joint Base Lewis-McChord and continuing work on a new I-395 corridor through Spokane. If the carbon tax revenue exceeds \$4.8 billion, then the remaining funds will be allocated to transportation-related sustainability initiatives in the state, including grants for transit systems, incentives for electric cars, and education for disadvantaged communities. In addition to the carbon tax the state's major polluters will have their emissions capped (thinkprogress). The cap will slowly be lowered overtime to encourage big businesses to switch to cleaner alternative energy in an effort to help create jobs. How this would work is that Washington's total emissions output will be partitioned into 130 limited segments; each segment comes with an allowance to emit a certain amount of pollutants into the air. Corporations will get to bid on each segment and depending on how many segments they have, that will be the cap set as the maximum amount of emissions they can output. Corporations will also be able to swap or sell parts of their segments to other firms (crosscut). Six months after the governor's initial proposal in December of 2014, the legislature did not move forward on climate change. This forced Governor Inslee to take executive action and direct the department of ecology to create the carbon pollution accountability act.

Governor Inslee's 2015 Carbon Reduction Plan

In 2015 Governor Inslee directed the state's department of ecology to step up enforcement of existing state pollution laws and develop a regulatory cap on carbon emissions. This cap and trade proposal, labeled "The Carbon Pollution Accountability Act" is intended to make the state's top 130 polluters pay for their carbon emissions and would force a significant reduction in air pollution. How this would work is that in 2016 the department of ecology will set a limit on an amount of segments, the state will put up for auction that year ,again a segment represents an allowance to emit pollutants; than 130 of Washington's biggest polluters will bid on these segments. After three years the emitters will have to turn their allowances back to the state, which will then calculate to ensure that the amount of segments matchup with every metric ton of carbon that emitter has released in the past three years (crosscut). The state will decrease the amount of segments it has available allowing emitters time to transition to cleaner technology. Aside from the Carbon Pollution Accountability Act, the governor and the department of transportation have plans to tackle carbon pollution caused by transportation. The Governor would like to extend tax incentives for electric vehicles in an effort to energize the electric vehicle market. House bill 1925 will extend a sales tax exemption on the first USD\$60,000 on the purchase of an alternative fuel vehicle. House bill 5444 is intended to create a vehicle infrastructure bank that will provide funding to install accessible high speed charging stations for electric vehicles. Lastly house bill 1929, the electric vehicles readiness in buildings bill will require cities and counties to adopt the electric vehicle incentives. In addition, Governor Inslee has directed the department of ecology to draft clean

fuel standards for cars, which would decrease emissions from tailpipes and increase energy independence (governor.wa.gov).

Pacific Coast Action Plan

Disagreements amongst political parties on the issue of climate change has been a conflict for many years. Some areas, including Washington, could no longer wait for congress to seriously address climate change. In reaction to the standstill California, Oregon, Washington and Canada's British Columbia decided to create the Pacific Coast Action Plan on Climate and Energy in 2008. The agreement is not legally binding nor does it appropriate any money; it is simply intended to spur ingenuity and innovation in our governments in a collaborative manner (Pacific Coast Collaborative). So what does this entail? All participants have agreed to the following:

- Track the cost of carbon. Each state has agreed to track the amount of carbon they emit and the source of emissions in order to track their reduction progress. They have also agreed to linking existing carbon pricing programs and working to develop them in Oregon and Washington. Currently California has a cap and trade system that has sold out of its allowances in each of the auctions it's held. British Columbia has had a carbon tax for more than 6 years now and if Oregon's and Washington's plans pass, the prediction is that programs will successfully link and create a larger carbon market for the region's allowances (Pacific Coast Collaborative).
- Implement low carbon fuel standards. This entails 10% of all new vehicles purchased to be zero emissions models, each state has agreed to maintaining or working to meet this goal. It also calls to support high speed rail services and energy efficient transportation

innovations as well as accelerating investment in alternative fuels across the energy sector (Pacific Coast Collaborative).

- Embrace clean energy, not just privately but publicly as well. Each jurisdiction has handled this in multiple different ways such as promoting easy access to energy-efficient buildings, ensure climate-smart infrastructure investment. Each state will also support EPA regulation of greenhouse gases from power plants (Pacific Coast Collaborative).

If the Pacific Coast Action Plan on Climate and Energy proves to be successful it will be an important part in getting the U.S., Canada, and the rest of the world on track to create jobs in clean energy and lower carbon emissions. Since Washington is a part of this collaboration it would be in the state's best interest to input some sort of carbon emission reduction plan into action (think progress).

British Columbia's Carbon tax

Will everyday tasks be affected by a carbon tax in Washington? Will we have to adapt to new rules and fewer luxuries? These are all questions one might ask when first hearing about this concept. A good way to know how successful a carbon tax would be is to look at its progress in other areas, such as British Columbia. Today, British Columbia has some of the lowest income tax rates in Canada, their economy is expanding and their emissions per capita rates are decreasing, in fact they are some of the lowest in North America (Clean Energy Canada). British Columbia's carbon tax became prevalent in 2007 when the province announced a plan for tackling carbon pollution. With widespread support from public and business communities the carbon tax finally went into effect in February of 2008. However it

does not cover all emissions sources, some sources are not included such as emissions that occur anywhere outside British Columbia, Emissions that are still currently hard and costly to measure such as methane, and non-combustion emissions. The government of British Columbia slowly introduced the tax, it started at CAD \$10 per metric tonne of carbon dioxide in 2008 raising gas prices at that time by 2.4 cents per litre or US \$0.9 per gallon. The tax was raised by \$5 per year until it reached \$30 a tonne by 2012 which by this time gas prices had increased by 6.7 cents per litre or US\$0.25 per gallon (Clean Energy Canada). So who really pays? The province only directly collects taxes from a limited number of companies, the fuel wholesalers. The tax is added onto an already existing tax that fuel wholesalers pay, wholesalers then pass the tax onto the retailers who pass it onto the consumers who pays for it at the pump. Although it raises the price of gas, the carbon tax does not create any new revenues for the province. In fact every dollar generated by the tax is collected and returned to the taxpayers and businesses through tax cuts making the tax revenue neutral. Simply put, this means that the amount of money you lose at the pump, you will make back through the amount you save in tax cuts (Clean Energy Canada). It has been eight years since the carbon tax went into effect in British Columbia and public support over the years have generally remained very strong. The province's main complaints were mostly rooted in rural communities. Many municipal leaders believed the tax was unfair to those who lived outside the city since those residents are more heavily dependant on personal vehicles than those who live in the city. Similarly, some parts of the agricultural sector felt disadvantaged compared to their competitors outside British Columbia who are unaffected by a carbon tax of any sort. Overall British Columbia's carbon tax seems to be benefitting their economy and their environment. Each year the government has

been collecting more than one billion a year in carbon taxes providing greater tax cuts and while the rest of Canada has seen an increase in fuel use, British Columbia has seen a significant drop since the carbon tax came into effect. Although the carbon tax proved to be successful in British Columbia it does not necessarily mean it will aid Washington in the same way, It is however an option.

Washington's Future

Washington faces major environmental despair if the global warming effect is not somehow reversed and at this point we know that is impossible. Climate change consequences are increasingly becoming even more apparent today when looking at Washington's environment. Drought, forest fires and accelerated rates of migration for food or habitat are contributing to the rapid extinction of many different native species such as the sage grouse. Ocean acidification and dead zones caused by algae blooms off the coast are suffocating fish, bleaching coral and disintegrating crustaceans and shellfish creating a huge loss in biodiversity. In addition we have only started to begin to feel the impacts climate change will have on the economy, infrastructure and public health. The livelihood of many, especially those of shellfish and fishing industries are going to be at serious risk, melting ice have already began flooding effects and it is predicted mudslides will become more common as a result. Sea level rise will eventually force human migration as much of the land around the puget sound is threatened to go under water. Washington faces grave environmental and economic disaster and all these environmental consequences can be directly linked to climate change which is directly caused by the emissions people continue to put out into the atmosphere. A carbon tax is intended to

help slow these exacerbating consequences by administering financial responsibility for emissions to help reduce the warming effect of our earth, to help every species on earth including ourselves survive through drastic environmental change and to help us accept and take responsibility for our own emissions. The carbon tax has been introduced and practiced in places all over the world, it is now up to Washington to decide if they want to implement a carbon tax and become part of the fight against climate change.

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