

Climate X Change

Benefits of the Regional Carbon Cost Collection Initiative

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THE REGIONAL CARBON COST COLLECTION INITIATIVE is a carbon-fee-and-dividend plan proposed by Climate XChange Maryland (CXC-MD). It is designed to limit greenhouse gas (GHG) pollution arising from the burning of fossil fuels in the residential, commercial, industrial, electricity, and transportation sectors, which together account for 89% of Maryland's GHG emissions. It sets a fee on the in-state consumption of fossil-based fuels and electricity, starting at \$15 per ton of CO₂ equivalent GHG emissions and rising to \$45 per ton in year seven. The program will be reviewed within three years to determine the future price trajectory.

Proceeds from the fee will be used primarily to reimburse households, businesses, government units, and small NGOs for their incremental costs. These rebates will be adjusted to fairly compensate those most sensitive to such costs, such as low-income households, renters, and trade-sensitive, energy-intensive businesses. Some of the proceeds will be placed in a "Green Infrastructure Fund" (GIF) to provide access to clean and efficient energy, further assist low-income households and renters, and help workers and communities transition to a clean energy economy. The carbon-fee-and-dividend (CFD) will come into effect when two other jurisdictions, either adjacent to Maryland or in the Regional Greenhouse Gas Initiative (RGGI), adopt a similar rule.

CXC-MD's CFD is designed to curb GHG emissions while providing several important social benefits and avoiding some potential harms. CFD is:

Essential to meet Maryland's climate change goals Complementing and enhancing existing programs, CFD will help fill the 6-18 million metric ton gap between Maryland's climate goals and reductions that can be achieved with current or planned policies.

Friendly to households and employers The fee sends a predictable price signal that enables employers, households, and consumers to plan for their energy needs.

Protects against adverse policy impacts The rebates and Green Infrastructure Fund protect low-income households, transitioning workers and communities, and trade-exposed, high-energy-use employers from adverse impacts of the fee.

Green Infrastructure Fund The GIF will invest in additional clean energy projects and help protect vulnerable households, workers, and communities.

Carbon pricing is effective The best evidence is a carbon tax instituted by British Columbia in 2008, which is estimated to have reduced BC's emissions by as much as 15%.

Carbon pricing is essential to meet Maryland's climate change goals

The 2016 Greenhouse Gas Reduction Act sets Maryland's climate change objectives: a 25% reduction in GHG emissions by 2020 and a 40% reduction by 2030, with an anticipated long-term goal of reducing GHG emissions by up to 90% from 2006 levels by 2050.¹

¹ Maryland Commission on Climate Change, 2017 Annual Report, http://mde.maryland.gov/programs/Air/ClimateChange/MCCC/Documents/MCCC_2017_final.pdf.

As discussed below, Maryland's current suite of policies is not adequate to achieve these objectives. A CFD is needed to help bridge the gap and maintain Maryland's leadership among U.S. states in meeting their responsibility to address climate change.

Extensive literature has consistently concluded that carbon pricing policies (both fees and cap-and-trade systems) are the most efficient and cost-effective means for accomplishing a given emissions control goal. Once the goal has been set, carbon pricing, along with complementary policies, can achieve that goal at the lowest possible cost. Put another way, for a given cost, carbon pricing maximizes the reductions that can be achieved. Carbon pricing also can provide a source of critically needed funding to develop clean infrastructure, such as improvements to public transportation and electric vehicle charging stations, as well as to protect low-income households from possible regressive effects of emission reduction policies and help workers, communities, and employers transition from a fossil-fuel based economy to a clean one.

Friendly to households and employers

In contrast to traditional "command and control" regulations, carbon pricing affords flexibility to regulated parties to allow them to comply in a manner that minimizes the cost of mitigation and best suits their individual circumstances. A fee on carbon emissions provides a financial incentive for employers and households to substitute less polluting products and processes when feasible, or pay the fee when that is the cheaper option. This encourages households and employers to make buying decisions or adopt superior technologies and processes that could result in substantial long-term benefits while minimizing the cost to society of reducing pollution.²

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To further ensure that CXC-MD's CFD is friendly to households and employers, the fees are implemented gradually. This will provide time to adjust to higher fossil fuel prices and begin making investments in clean energy. A larger portion of the rebate is distributed to low and moderate income households, timed to coincide with their energy payments, to protect them from potentially regressive effects of the bill. Energy-intensive manufacturers, farms, and other for-profit employers facing out-of-state competition receive similar protection. Small nonprofit organizations and government units are protected from the undue burden of higher energy costs. Households that heat with fuel oil also will receive an additional rebate. A large majority of households at or below median Maryland income come out ahead with CFD.

Protects Maryland's most vulnerable

Compared to other discretionary spending, poorer households use a larger proportion of their income on energy and, therefore, would be more heavily impacted by the higher price of fossil fuel-based energy due to the fee. Our bill overcomes this regressive effect by directing the first 25% of rebates to the lowest three-fifths of households in the income distribution, plus additional funds for low-income fuel assistance. The remainder is distributed in equal

shares to all Maryland residents, with adults getting a full share and children getting a half. An independent household impact model commissioned by CXC-MD shows that such rebates can make most low-income households better off than they would have been without a CFD, with no significant negative impact on the wealthiest households.³ The Green Infrastructure Fund can further reduce regressive effects by helping middle and low income households obtain energy efficiency upgrades and access to subsidized renewable technologies, such as solar panels or community-based solar.

² Climate Leadership Council, The Conservative Case for Carbon Dividends (2017), <http://bit.ly/2BYrvCl>.

³ Marc Breslow, An Analysis of Impacts on Households at Different Income Levels from Carbon Pollution Pricing in Maryland, (forthcoming 2018).

Complements and enhances existing programs

A 2017 progress report prepared by the Maryland Department of the Environment revealed a 6-18 million ton gap between GHG emission reductions that can be achieved by programs already planned or underway and Maryland's goal of achieving a 40% reduction in emissions by 2030.⁴ These programs include the Renewable Energy Portfolio Standard Program, RGGI, EmPOWER Maryland, and the Maryland Clean Cars Program. Our carbon-fee-and-dividend plan will complement and enhance these programs. For example, the carbon price of electricity in Maryland set by RGGI is currently in the range of \$4-5 per ton. CFD would raise the carbon price to \$15 in the first year and to \$45 in year seven, 10 times the current RGGI price. The Green Infrastructure Fund would accelerate reductions by facilitating the adoption of cleaner and more energy-efficient technologies.

Studies conclude that carbon pricing should be part of a comprehensive mix of policies to meet particular GHG reduction goals. Such a mix will moderate the price increases that might be needed if sole reliance were placed on a pricing approach. It is well documented that it is particularly useful to combine carbon pricing with requirements and positive incentives, such as tax credits, to implement renewable energy and efficiency standards as well as to provide information pertaining to vehicle, appliance, and building efficiency.

Green Infrastructure Fund to invest in clean energy and protect vulnerable citizens

Some of the proceeds of the carbon fee will go to a GIF. The GIF will allocate at least half the money it receives to local governments, in proportion to the amounts their

jurisdictions paid in, and the remainder will fund state programs. The money will be used to support projects that reduce GHG emissions from transportation, increase resilience to climate change impacts by strengthening natural systems and hardening critical infrastructure, and support energy efficiency and renewable energy projects that reduce emissions and costs. In addition, investments will assist low-income households and renters in reducing their energy costs and provide transitional assistance to workers who are displaced by the shrinkage of fossil-fuel related industries and to communities that experience losses in tax revenue and other economic loss due to the shrinkage. Wherever feasible, these investments will be designed to create local economic development and employment in the state. As a priority, money will be distributed to or used for the benefit of neighborhoods and local governments whose households are in the lowest third of the income scale.

Carbon pricing is effective

A few historical precedents are useful in estimating the potential effectiveness of CFD in reducing fossil fuel demand. One relevant precedent is the carbon tax instituted by the Canadian Province of British Columbia, in 2008. Covering 70% of the province's GHG emissions (mainly from transportation, heating, and industrial processes), it began at C\$10 per ton and rose C\$5 each year until it reached C\$30 (US\$24) per ton in 2012, where it has remained. The tax was offset by reductions in other provincial taxes to make it revenue neutral.

There have been several studies that attempted to quantify the effectiveness of the tax in reducing emissions. Most of the studies compared fuel sales in British Columbia to those in other provinces, using periods before and after introduction of the fee in BC. One study found a 19% reduction in per capita sales of fuels subject to the tax relative to other

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⁴ Maryland Department of the Environment, *Status Report: What Do We Know About 40 by 30?* (June 21, 2017), <http://bit.ly/2FMKjGL>.

Canadian provinces over the 2008-2012 period.⁵ It also found that fuels not subject to the fee, such as aviation fuel, did not exhibit reduced sales. A comprehensive review of other studies using different evaluation methods concluded that the carbon fee reduced fuel consumption and GHG emissions in BC between 5% and 15% between 2008 and 2013.⁶

A 2016 Food & Water Watch study on the impact of the BC carbon tax on GHG emissions took a different approach, comparing emissions in the taxed and untaxed sectors.⁷ This study concluded that taxed emissions (e.g., those resulting from the combustion of gasoline, diesel, natural gas, or coal used by power plants) increased faster than untaxed emissions (e.g., fuels used by planes or ships traveling outside BC, all non-combustion CO₂ emissions from industrial processes, forestry, and agriculture) in the 2010-2014 period. The study neglected to point out, however, that each sector has a unique market where factors influencing supply and demand can vary considerably. Differences in extraneous factors uniquely affecting activity in the taxed and untaxed sectors could explain the difference in emissions trends. Economists prefer to base conclusions on a comparison of results with and without a new policy within the same sector.

Some concern has been expressed that a carbon fee might affect the economy negatively, but the BC experience suggests that it will not have a negative impact. The comprehensive review by Murray and Rivers, mentioned above, concluded that “based on a somewhat limited number of studies, the empirical evidence of the effects of the BC carbon tax on economic performance suggests little net impact in either direction.” In Maryland, all of the carbon fees would be returned to the public, through rebates to

households and employers, investments in clean energy, and transition benefits, thereby benefiting the economy.

The CFD plan proposed for Maryland should be even more effective in reducing emissions than British Columbia’s carbon tax, for two reasons. First, the low percentage of BC’s emissions from its electricity sector limit the effect of the tax. Compared to other sectors, electricity is highly responsive to carbon price signals.⁸ BC’s electricity sector, mainly hydropower, accounts for less than 3% of its emissions, whereas in Maryland electricity consumption accounts for more than 35% of GHG emissions.⁹ Second, the BC tax was capped at US\$24, whereas the CFD will rise to \$45, nearly double the BC level.¹⁰ ■

5 Stewart Elgie & Jessica McClay, *BC’s Carbon Tax Shift Is Working Well after Four Years (Attention Ottawa)* (University of Toronto Press 2013), <http://www.utpjournals.press/doi/pdf/10.3138/CPP.39.Supplement2.S1?download=true>.

6 Brian Murray & Nicholas Rivers, *British Columbia’s revenue-neutral carbon tax: a review of the latest “grand experiment” in environmental policy* (Duke Nicholas Institute 2015), https://nicholasinstitute.duke.edu/sites/default/files/publications/ni_wp_15-04_full.pdf.

7 Food & Water Watch, *The British Columbia Carbon Tax: A Failed Experiment in Market-Based Solutions to Climate Change* (Oct. 2016), https://www.foodandwaterwatch.org/sites/default/files/rpt_1609_carbontax_web17011.pdf.

8 Charles Komanoff & Matthew Gordon, *British Columbia’s Carbon Tax: By The Numbers* (Carbon Tax Center 2015), https://www.carbontax.org/wp-content/uploads/CTC_British_Columbia’s_Carbon_Tax_By_The_Numbers.pdf.

9 US EIA, *Energy-Related Carbon Dioxide Emissions by State, 2000-2015*, <https://www.eia.gov/environment/emissions/state/analysis/pdf/table4.pdf>.

10 A forthcoming independent analysis will provide additional evidence on this topic.