**MARCH 29, 2021**

**COMMENTS ON THE TCI-P DRAFT MODEL RULE TO REDUCE AND CAP CARBON DIOXIDE FROM TRANSPORTATION WHILE INVESTING IN CLEANER TRANSPORTATION CHOICES AND HEALTHIER COMMUNITIES**

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**Summary:** The TCI-P is a cap-and-invest program designed to reduce greenhouse gas emissions, promote sustainable growth, and address public health inequalities. After reviewing TCI-P measures, our results suggest that the program will incur $501.75 million in costs and deliver $4.5 billion in benefits. Based on these findings, the TCI-P provides a net benefit, collaboratively addressing climate change among US-based states and serving the national economy.

**The Transportation and Climate Initiative Program (TCI-P) is a multijurisdictional cap-and-invest program aimed at reducing carbon dioxide emissions from transportation**. Thirteen Northeast, Mid-Atlantic and Southeast states + DC worked together to develop the program and in December of 2020, three of those states + DC officially launched the program. Emission reductions will be achieved by setting an emissions cap, leveraging market dynamics to control the $/metric ton of CO2 after emissions are capped and auctioned off, and investing the proceeds from these auctions into measures that further reduce emissions.

**The emission cap set forth by the TCI-P will be equal to the sum of all TCI-P participating jurisdiction emission budgets.** With Connecticut, DC, Massachusetts, and Rhode Island as the first participating jurisdictions, the total emission cap based on their combined annual CO2 emission budgets is 42.1 MMT. However, the estimated emissions budget with full participation is 267.6 MMT. “State Fuel Suppliers” are the entities required to obtain and hold allowances to cover CO2 emissions from “Affected Fuel” which includes the fossil fuel components of motor gasoline and on-road diesel fuel delivered for final sale or consumption in a TCI-P participating jurisdiction. State Fuel Suppliers are also required to report CO2 emissions and these suppliers include Position Holders, owners of Affected Fuel, terminal operators, and distributors.

**The TCI-P also includes stability mechanisms.** To encourage emission reduction, the total base annual emission budget across all participating jurisdictions is set to decline by 30% by 2032, by equal amounts each year. Models showing potential impacts of the TCI-P have projected CO2 allowance prices to begin around $6.60 per metric ton in 2023 and rise to nearly $12.50 per metric ton in 2032. The TCI-P includes pseudo price ceiling and price floor mechanisms in the form of a Cost Containment Reserve (CCR) and an Emissions Containment Reserve (ECR). If allowance prices fall below $6.50 per metric ton, the ECR will allow participating jurisdictions to withhold allowances and reduce emissions at a lower than expected cost. If allowance prices rise above $12 per metric ton, the CCR, which holds additional allowances in reserve, will be made available to mitigate higher than expected prices. The TCI-P also allows for the limited use of offsets as a compliance alternative. However, in each 3-year compliance period, a State Fuel Supplier may only cover up to 3.3% of its reported emissions with offset allowances and only projects for reductions that are realized on or after the date of the signing of the Memorandum of Understanding qualify.

**Starting with a total emissions budget of 267.6 MMT for all thirteen jurisdictions, we calculated the total emissions reduction of 30% for the program to be 80.28 MMT by the end of the 10 year period.** Since the TCI-P establishes a linear reduction pathway in which each year sees the same reduction amount we can conclude a reduction of 8.92 MMT of CO2 each year.

**In order to calculate the total climate benefits from this reduction we need to establish the social cost of carbon (SCC)**. The SCC can be volatile depending on who is performing the analysis and where it’s taking place, therefore we used the SCC set by the Biden administration. The SCC is not a fixed value over time and increases incrementally over the course of the program. Starting with a SCC of $51/metric ton in 2023, it increases to $56/mt in 2025, and again in 2030 to $62/mt. These values all assume the same discount rate of 3% which appears to be the standard rate used by the administration. Taking the annual emissions reduction of 8.92 MMT and multiplying it by each year's SCC we get a total climate benefit of $4,559,904,000. It would be beneficial, however, to compare the emissions from the policy to a business-as-usual (BAU) scenario. Projections show that without a policy, emissions from the transportation sector will still decline. Subtracting annual emissions with the policy enacted from those in a BAU scenario we can calculate the emissions abated each year due to the policy directly. Multiplying those figures by the SCC we get total benefits of $10,601,680,000.

**Our calculated policy cost of TCI-P totals $501.75 million**. We made a simple straight-line calculation of the area beneath the marginal cost curve using total emissions abated and the final price of one allowance. Our formula is ½ \* 80.28MMT (CO2 abated) \* $12.50 (permit in 2032). Estimating tons abated and marginal cost of abatement gives us a usable point on the marginal cost schedule to compare against zero tons abated. We do not consider additional costs to consumers in the form of increased prices at the pump (see below) or those to fuel suppliers which might accrue through avoiding production and sale of additional fuel to the TCI-P region.

We assume permit prices increase by $0.66 each year from $6.60 in 2023, within the guidelines of TCI-P Estimations (*page 3)*. We note that prices may rise or fall from the $0.66 increase within the limits of the price floor set by the ECR and price ceiling set by the CCR. Both have mechanisms for increasing or restricting the number of allowances available at auction by +/-10% to achieve emissions reductions targets. The TCI-P modeling summary assumes that any resultant gasoline price increase will be minimaland within the range of annual gas price volatility. If fuel suppliers pass the full cost of permits onto consumers, gasoline prices in 2023 are projected to increase by $0.05/gallon but not exceed $0.09/gallon, regardless of fluctuations in permit prices.

**The TCI-P establishes capital funds each year to be funneled into transportation, public health, and community engagement.** As part of the TCI-P, each participating jurisdiction will decide how best to utilize auction proceeds to achieve community public health and climate resilience goals. Potential capital investment ranges from projects improving public transportation and climate resilience infrastructure, expanding high-speed internet access in low-income communities, and providing rebate options to consumers for electric or low-emission vehicles. If all jurisdictions actively participate, projections suggest that $3.6 billion in health and safety benefits will result from the TCI-P.

**The TCI-P recognizes the need to serve underprivileged communities who are often those at the most significant climate risk.** Therefore, no less than 35% of auction proceeds will be allocated towards equity initiatives in service to the overburdened communities. Each justification will establish an equity advisory body to provide input, and impacts the TCI-P program may have on the local communities will be addressed on an ongoing basis. Though this allocation may deliver meaningful benefits to some justifications, projections reveal that very modest benefits are likely to arise from these community engagement activities. Therefore, TCI-P may need to consider other multidimensional factors that impact local equity and how the program has negative impacts on the underserved residents.

**Lastly, the TCI-P will include a monitoring component.** Each jurisdiction will review its funded programs' progress and assess TCI-P regulations' impacts on their local communities. From this, jurisdictions may need to consider enacting complementary policies to ensure TCI-P results are being met. Additionally, new and developing state and federal policies may provide complementary benefits to the TCI-P program. To ensure alignment, the TCI-P may need to consider adding adjustments to its allowance allocations and cap-and-trade procedures as new US-based climate policies roll out within the region.

**In general, our group is in favor of the TCI-P**. From a purely economic standpoint, the program's benefits far outweigh costs. The cap-and-invest nature of this program allows for investments to fuel innovation that reduces emissions, leading to more equitable outcomes at low costs for consumers and businesses. Additionally, requiring a portion of investments to go to underserved communities addresses environmental injustices. One of the issues we had with our analysis was that TCI-P modeling lacks sensitivity analysis for changes in permit prices over the program’s 10 years and fuel price changes after 2023. It also does not provide good detail on how the reduction pathway of 30% was modeled or how the mechanisms of the cap would accomplish reduced petroleum sales. Despite this, we felt that jurisdictions self-electing to create and adopt this program without a federal mandate indicates its promise, as often carbon market solutions fail to receive support. The TCI-P’s regional focus and minimal impact on consumers represents a more successful model than federal policies like the Clean Power Plan. The adoption of this program paves the way for future collaboration and innovation around policy tools to address climate change.

**Work Cited**

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