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Nick Troutman 1/24/2020
Director, Senate Environmental Resources & Energy Committee
362 Main Capital Building, Senate Box 203023
Harrisburg, PA 17120

RE: January 29, 2020 hearing on "Impacts of Pennsylvania's Participation in the Transportation Climate Initiative (TCI)

Dear Mr. Troutman,

Thank you for the invitation to participate on the above mentioned hearing panel on behalf of the Commonwealth Foundation. Following is my proposed testimony, and see the Power Point presentation.

What is the TCI?

This is plan to force motor fuel distributers to purchase carbon dioxide emissions allowances at auction with the cost passed onto consumers at the gasoline/diesel pump, and is similar to the decade old Regional Greenhouse Gas Initiative for electricity.

What will it cost Pennsylvania citizens?

Using the Georgetown Climate Centers own figures[1], the most aggressive plan would raise motor fuel prices an average of $0.24 a gallon over the period 2022 ($0.17/gal.) to 2032 ($0.31/gal.). Pennsylvania's annual fuel use is expected to average 4.2 billion gallons a year. Fuel cost would cost about $1 billion more a year, or $10 billion over ten years. With about 4.8 million Pennsylvania households, each household will see a cost of about $210 a year, or $2,100 over ten years.

What are the expected benefits?

TCI assumes Pennsylvania carbon dioxide emissions will drop 6 percent by 2032, or about 3.2 million tons. There is little detail provided, but it looks like they expect Pennsylvania to have about $650 million in economic benefits from spending the TCI revenue, and about $2.2 billion in monetized public health benefits in 2032.

Is the TCI program likely to work as advertised?

No, and there are a number of reasons why.

- The program follows the RGGI format, and a peer reviewed study by me[2], and a similar study by the Congressional Research Center[3] concluded RGGI did not reduce carbon dioxide emissions, or have associated health benefits, when compared to non-RGGI states with similar energy policies.
- A Virginia poll finds only 34 percent support the TCI after hearing the cost.
- A recently published article[4] comparing RGGI to the TCI stated the TCI needed three elements to work; the participants in the program must make the key decisions affecting emissions, there should be few participants, the participants should be sophisticated players with significant technical and financial resources. Fuel distributors have none of those characteristics.
- TCI is counting on higher prices to discourage driving. A study by the U.S. Energy Information Agency[5] found motor fuel prices would need to increase 25 to 50 percent to reduce driving by 1 percent, or a $3.72/gallon price increase to get a 6 percent reduction. My own study[6] of the national

trend from 2001 to 2017 found each penny of increased price reduces per capita vehicle miles traveled by 3.5 miles a year. The TCI goal requires a 477 mile/year reduction, and would need a fuel price increase of $1.36/gallon, almost four times as much as the planned 31 cent maximum.

- TCI assumes 81 percent of the multi-state revenue by 2032, or about $45 billion, will be spent on subsides for electric vehicles to save 16.5 million tons of carbon dioxide emissions. The cost would be $2,700/ton of emission reduction. The current cost of a RGGI emission allowance is about $6/ton.
- TCI expects significant investment in electric buses will lower emissions. However, about 60 percent of buses had already switched to alternative fuels by 2017[7] to reduce emissions, and lower costs. Fleets are unlikely to switch to electric buses that cost two times as much as a natural gas powered bus that burns the gas directly instead of burning it in a power plant with transmission and DC conversion losses of over 20 percent.
- Pennsylvania's $0.587 fuel tax is already the second highest in the country. Does the Governor really want to increase that burden, especially on the poorest among us who are already in energy poverty?
- Even the TCI assumes policies already in place will have three times the impact on emissions reductions (19% v. 6%). The TCI is simply not needed.

What other key TCI assumptions are in question?

- The projected economic benefits of TCI revenue spending appear to ignore the economic costs of higher gasoline prices that would overwhelm the benefits
- The projected public health benefits are likely exaggerated. The EPA considered three scenarios for health benefits in its recent Affordable Clean Energy Rule[8]. The case with the highest confidence level (by far), found health benefits of only one-fifth those projected by the TCI program, or about $460 million in 2032, not $2.2 billion.
- TCI expects to spend 10 percent of the revenue to encourage more bike and pedestrian travel. Do they really think a significant number of people are going to leave their cars for walking, or bicycling?
- TCI assumes electric car battery prices will come down by half, or more. These batteries are basically 1000 pound cell phone batteries, and most of the potential price reduction from economies of scale have already been realized.
- TCI assumes big electric vehicle purchase subsidies are needed. Last year Tesla reduced car prices $3,000 to compensate for lost federal subsidies.
- TCI assumes more electric vehicle charging stations are needed. Pennsylvania has 534 charging stations for about 9,000 vehicles (0.1% of all vehicles), about the recommended number.
- The number one stated reason for the TCI is the concern global warming will increase the frequency, and severity of extreme weather. See Appendix 1 for graphs that dispute this claim.

What are other states doing about TCI?

NH – Governor Sununu has announced NH will not participate
VT – Governor Scott has made comments he opposes carbon dioxide taxes
ME- Governor Mills has stated she opposes a tax that would be passed on at the pump
VA – No TCI in State of the Commonwealth address, and plans for a gas tax increase for highways
CT – considering a gas tax for highways, so no mention of TCI

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DE – Governor Carney has promised to bring the issue to the legislature for a vote
NJ – Considering a gas tax for highways, probably no TCI
MA – Governor Baker is leading proponent of TCI, and has not promised to ask legislature for a vote

What does Pennsylvania contribute to carbon dioxide emission reduction?

- Emissions were cut by 64 million tons from 2005 to 2017, or 23 percent. While US emissions fell 14 percent, with the rest of the developed world cutting only 5 percent.
- Pennsylvania natural gas production has risen by 6 trillion cubic feet from 2009 to 2018[9], replacing higher emitting coal saving 308 million tons of emissions[10]. In addition, it is estimated the naturals gas revolution has reduced energy costs $2,000 a year for the typical American family[11].
- Pennsylvania has over 15 million acres of forest cover absorbing 15 to 38 million tons of carbon dioxide a year[12].
- Pennsylvania is easily covering its current 215 million tons of emissions, and needs do nothing more.

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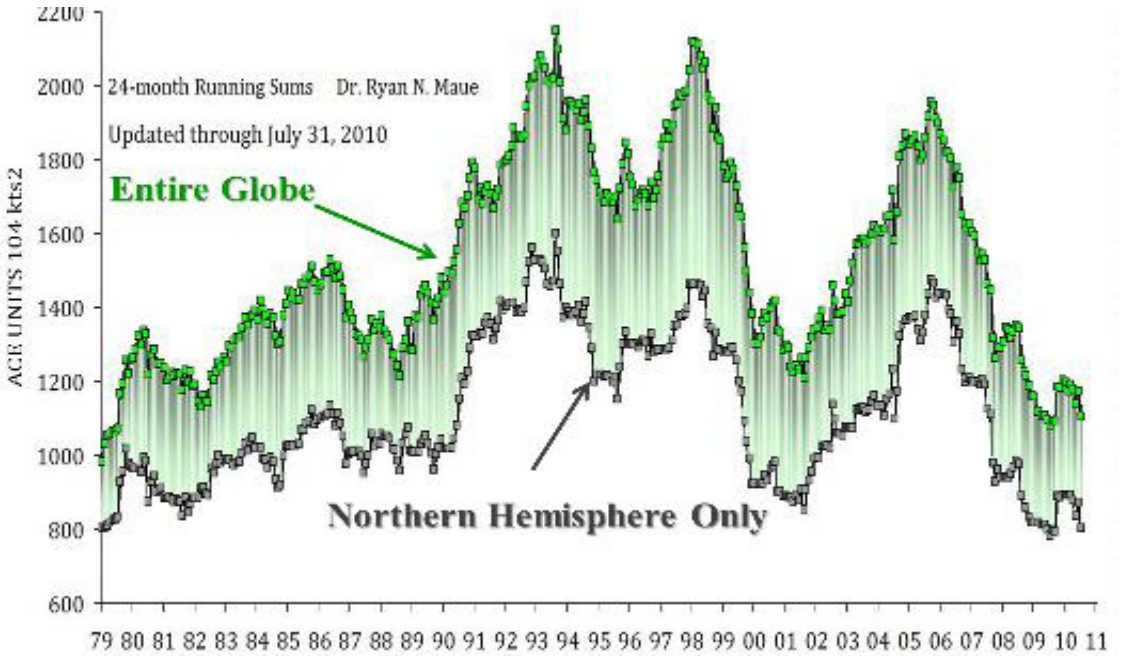
Notes:

1) TCI Modeling Results Summary, https://www.transportationandclimate.org/sites/default/files/TCI%20Modeling-Results-Summary_12.17.2019.pdf
2) Cato Journal, Winter, 2018, "A Review of the Regional Greenhouse Gas Initiative", Summary, Page 2, David T. Stevenson, Director Center for Energy Competitiveness for the Caesar Rodney Institute, https://object.cato.org/sites/cato.org/files/serials/files/cato-journal/2018/2/cato-journal-v38n1-chapter-11.pdf
3) Congressional Research Service, May 16, 2017, "The Regional Greenhouse Gas Initiative: Lessons Learned and Issues for Congress", Summary, page 1, Jonathan L. Ramseur Specialist in Environmental Policy, file:///C:/Users/dtste/Documents/RGGI%20Congressional%20Research%20Center%20Study.pdf
4) Rutland Herald, TCI Criticism, Jeff Wennberg, 1/3/2020, https://www.rutlandherald.com/opinion/commentary/tci-criticism/article_b8f69d01-576f-5e0f-a1b9-0cee6a54a0f2.html
5) US Energy Information Agency, 12/15, 2014, 'Gasoline prices tend to have little effect on demand for car travel", https://www.eia.gov/todayinenergy/detail.php?id=19191
6) Spread sheet available upon request
7) American Public Transportation Association Fact Book 2019, https://www.apta.com/wp-content/uploads/APTA_Fact-Book-2019_FINAL.pdf
8) US Environmental Protection Agency, Affordable Clean Energy Rule Regulatory Impact Analysis, Table 4-7, page 4-33, https://www.epa.gov/sites/production/files/2019-06/documents/utilities_ria_final_cpp_repeal_and_ace_2019-06.pdf

9) US EIA, Pennsylvania natural gas production by year, https://www.eia.gov/dnav/ng/hist/n9050pa2a.htm
10) US EIA Carbon dioxide emissions by fuel, https://www.eia.gov/tools/faqs/faq.php?id=73&t=11
11) Council of Economic Advisers ,Oct. 2019, "The Value of US Energy Innovation and policies supporting the shale revolution", https://www.whitehouse.gov/wp-content/uploads/2019/10/The-Value-of-U.S.-Energy-Innovation-and-Policies-Supporting-the-Shale-Revolution.pdf
12) Forestry Research and Engineering: International Journal, Carbon sequestration: how much can forestry sequester CO2?, Volume 2 Issue 3 – 2018, Egbuche Christian Toochi Department of Forestry and Wildlife Technology, Federal University of Technology Owerri, Nigeria, https://medcraveonline.com/FREIJ/FREIJ-02-00040.pdf

Appendix 1 Weather is not increasing severity or frequency



Tropical Cyclone _Accumulated Cyclone Energy' from 1979 to 2010
http://www.coaps.fsu.edu/~maue/tropical/global_running_ace.jpg

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