

June 4, 2018

Via E-mail

Governor's Council on Climate Change

RE: Regional Transportation Climate Policy – Significant Benefits from Cap-and-Invest Approach

Dear Council Members:

Acadia Center would like to congratulate the Governor's Council on Climate Change (GC3) on setting a 45% greenhouse gas (GHG) emissions reduction target by 2030. In its report, *EnergyVision 2030*,¹ published in April 2017, Acadia Center demonstrated that an interim GHG reduction target of 45% by 2030 is necessary to put the Northeast states on track to reach their commitments to reduce GHGs 80% by 2050. With this target now set in law through Public Act No. 18-82,² the GC3 must identify and recommend concrete solutions to achieve it. As Acadia Center has previously demonstrated with Connecticut's near-term GHG reduction target of 10% by 2020,³ these mandates alone do not achieve actual emissions reductions; well-defined policy implementation strategies are also required for the state to achieve the deepest carbon reductions.

Acadia Center outlined a suite of policies that would help Connecticut reach the 45% GHG reduction target in *EnergyVision 2030*. This letter focuses only on the enormous benefits our state would gain by implementing just one policy solution, in particular – putting a price on GHG emissions from the transportation sector, often referred to as transportation climate policy. Acadia Center urges the GC3 to include this type of policy in its deliberations because of the significant emissions reductions and economic benefits it could bring to the state. Our analysis, described below, demonstrates that emissions could be reduced by millions of tons, while raising billions of dollars in revenues that could, in turn, generate tens of billions of dollars in economic activity. Given these benefits, a cap-and-invest policy was widely supported as a viable option at the regional listening session co-hosted by the GC3 and Georgetown's Transportation Climate Initiative. Connecticut should work with its neighbors in the region to develop and adopt a multi-state cap-and-invest program to reduce emissions from the transportation sector.

Connecticut's Transportation Opportunity

As the GC3 knows, Connecticut's transportation system – the network of highways, trains, public transit, and walking and biking corridors – is vital to the state's economy, as it facilitates movement of goods and connects people to jobs and opportunities. However, the system needs critical updates to continue to support the state. At the same time, the

¹ See 2030.acadiacenter.org.

² See An Act Concerning Climate Change Planning and Resiliency, P.A. 18-82, Section 7 (<https://www.cga.ct.gov/2018/act/pa/2018PA-00082-R00SB-00007-PA.htm>).

³ See Acadia Center's [Updated GHG Emissions Inventory for Connecticut](#).

transportation sector is the largest source (about 40%) of Connecticut's GHG emissions, which must be reduced for the state to meet its mandatory climate commitments. A regional transportation climate policy, such as cap-and-invest, would help address both these challenges by raising funds through emissions reductions with a well-tested policy model similar to the Regional Greenhouse Gas Initiative (RGGI).

RGGI puts a price on carbon emissions from electricity generation and allows states to use the proceeds to invest in renewable energy and energy efficiency. Since the program began in 2009 CO₂ emissions in the region have dropped by 50%, \$4 billion of economic activity has been generated, and tens of thousands of jobs have been created throughout the Northeast.⁴ Connecticut was a founding member of RGGI, and as of 2017 had spent about \$201 million of its proceeds on clean energy projects. Through 2014 RGGI expenditures added about \$245 million to Connecticut's economy, created 2,200 job-years,⁵ and the program has resulted in \$152 to \$343 million in avoided health costs.⁶

A similar regional cap-and-invest program could be applied to transportation to raise revenues, reduce emissions, and stimulate the economy. To better understand this opportunity, Acadia Center analyzed a scenario that reduced Connecticut's transportation GHGs 4%, or nearly four million metric tons of CO₂, by 2030 compared to the baseline scenario from EnergyVision 2030.⁷ This level of emissions reductions is aligned with Georgetown Climate Center's estimate for market-based policy compared to existing Federal policies.⁸

Revenue and Reinvestment Strategies

Based on a \$15/ton carbon price,⁹ the state could generate nearly \$2.5 billion in revenue between 2019-2030 by capping emissions (Table 1). Connecticut could allocate these funds in many ways to modernize transportation and reduce GHGs. For example, the state could prioritize reducing transportation GHGs by designating 100% of the program proceeds to emissions reduction measures, such as transit expansion, consumer electric vehicle and charging infrastructure rebates, and electrification of medium and heavy-duty vehicles like transit or school buses. Alternatively, the state could designate some of the proceeds for infrastructure maintenance and transit operations, which could also reduce GHGs (by reducing traffic congestion, for example) as an ancillary benefit.

⁴ See Analysis Group's "[The Economic Impacts of the Regional Greenhouse Gas Initiative on Nine Northeast and Mid-Atlantic States: Review of RGGI's Third Three-Year Compliance Period \(2015-2017\)](#)".

⁵ See Acadia Center's [Clean Energy Investments at Stake in Connecticut](#).

⁶ See Abt Associates' "[Analysis of the Public Health Impacts of the Regional Greenhouse Gas Initiative, 2009-2014, Appendix E](#)".

⁷ See Acadia Center's [EnergyVision 2030 Technical Appendix](#) for modeling details. The Baseline scenario includes existing EPA/DOT fuel efficiency standards for medium and heavy-duty vehicles, as well as the existing Corporate Average Fuel Economy standards through 2025.

⁸ See Georgetown Climate Center's [Technical Appendix Emission Reduction Strategy Analysis](#) from "[Reducing Greenhouse Gas Emissions from Transportation: Opportunities in the Northeast and Mid-Atlantic](#)." Existing Federal policies include the EPA/NHTSA corporate average fuel economy (CAFE) standards.

⁹ Georgetown Climate Center's analysis assesses a carbon price for market-based transportation climate policy between \$5-\$30/ton CO₂.

To provide an example of how the revenue raised by a cap-and-invest program could be distributed, Acadia Center examined a 50/50 portfolio, with half of the program proceeds going to maintenance of infrastructure and half going to specific GHG reduction measures (Table 1 below). This portfolio is only provided as a point of reference, not a recommendation, as it does not include the full suite of activities that could be funded with proceeds. However, it does illustrate that over \$100 million could be available annually for each of the investment categories.

Table 1: Simplified Reinvestment Portfolio for Connecticut's Proceeds from Transportation Climate Policy

<i>Connecticut</i>	Possible Investment Portfolio	2019-2030 Total Revenue (Millions)	Average Annual Revenue (Millions)
Highway and Transit Maintenance	50%	\$ 1,227	\$ 102
Highway Preservation	33%	\$ 810	\$ 67
Maintaining Current Transit Operations	17%	\$ 417	\$ 35
GHG Mitigation Strategies	50%	\$ 1,227	\$ 102
EV Rebates and Infrastructure	25%	\$ 613	\$ 51
Transit Improvements/Electrification	25%	\$ 613	\$ 51
Total	100%	\$ 2,453	\$ 204

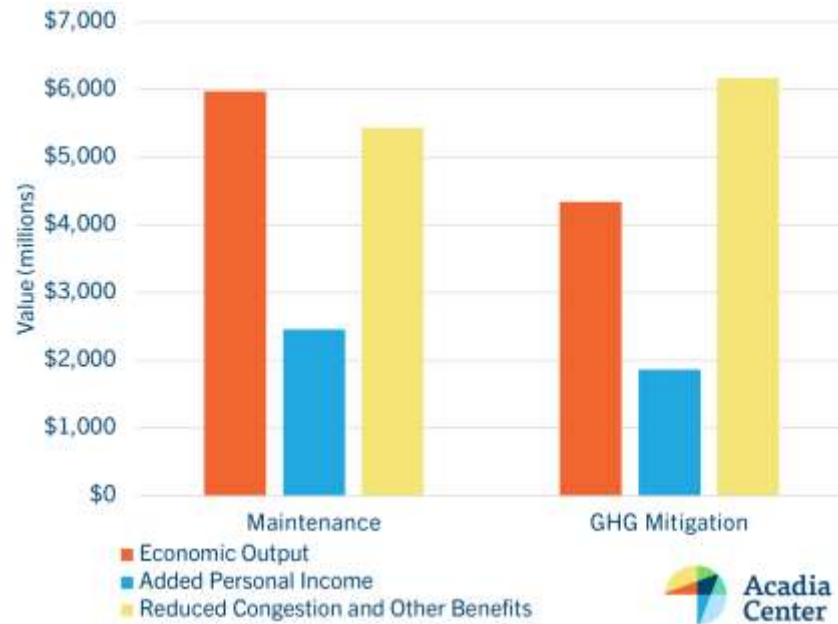
Benefits from Reinvestment

By examining the benefits of similar transportation expenditures in Connecticut and the U.S.,¹⁰ Acadia Center has estimated some of the economic activity and other monetary benefits a 50/50 portfolio could generate (Figure 1 below). The total benefits from both tracks of spending are estimated to be about \$10.3 billion in economic output, \$4.3 billion in added personal income, and \$11.6 billion in other benefits including fewer hours spent in traffic (not including the value of reduced GHG emissions). This level of investment would also create over 3,000 long-term jobs (i.e. not construction jobs). The savings to the state from the avoided costs of GHGs¹¹ would be about \$86 million.

¹⁰ See Economic Analysis Reports for the I-84 Viaduct, the I-84/Route 8 Mixmaster in Waterbury, and the New Haven Rail Line, available in the [November 2015 Briefing for the Transportation Finance Panel](#), and NREL's [National Economic Value Assessment of Plug-In Electric Vehicles](#).

¹¹ See EPA's ["Social Cost of Carbon methodology."](#)

Figure 1: Increased Economic Activity and Other Benefits from Reinvesting Transportation Climate Policy Revenues¹²



The exact benefits of the cap-and-invest program would vary depending on policy design and investment strategy, both of which should be developed with stakeholder input, but this analysis demonstrates the magnitude of the opportunity for Connecticut. Acadia Center urges the GC3 to recommend that Connecticut work with its neighbors to lead the development of a regional transportation climate policy, like cap-and-invest, to reap enormous economic benefits and put the state on track to meet its near and long-term emissions reductions requirements.

Sincerely,

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¹² Reduced congestion and other benefits calculated as present value. Economic output and added personal income are cumulative totals over the project lifespans.