







Policy Office

Transportation & Climate Initiative Cap and Invest Program

November 20, 2019

Tom Wolf, Governor

Patrick McDonnell, Secretary

Climate Impacts in Pennsylvania

Changing climate patterns have caused and will continue to cause impacts in Pennsylvania to public health, infrastructure, emergency services, and major economic contributors like agriculture, tourism, and recreation.



PennDOT has experienced record breaking impacts from floods and landslides that have cost over \$125.7 million extra for infrastructure replacement in 2018 alone.



Higher temperatures lead to higher concentrations of ground-level ozone, which can lead to increased asthma rates.



Farmers are already experiencing direct crop damage from increasingly intense precipitation events. Heat stress may lead to declines in dairy production and summer flowering crop yields.



Pennsylvania already has the highest number of cases of Lyme disease in the nation, triple the number from just 10 years ago. This increase is possibly due to the western expansion of Lymebearing ticks and warmer winters that are leading to higher tick populations.



Pennsylvania's Emission Reduction Goals

It was for these reasons that Governor Wolf set the first ever statewide GHG emission reduction goals of 26% by 2025 and 80% by 2050 from 2005 levels.

➢ If other states and nations achieved similar targets, global temperatures could be kept below the threshold beyond which dire climate consequences would occur. Governor Wolf Establishes First Statewide Goal to Reduce Carbon Pollution in Pennsylvania

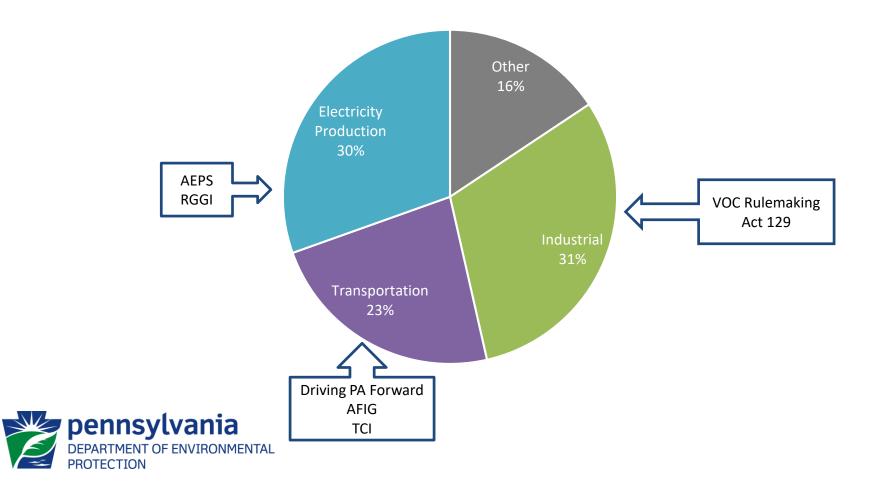
January 08, 2019





Greenhouse Gas Emissions By Sector

Electricity Production, Transportation, and Industrial make up approximately 84% of all PA GHG emissions. RGGI specifically targets CO2 emissions in electricity production sector, while other initiatives are targeting emissions in the other key sectors.



Transportation in Pennsylvania

- Transportation accounts for one-third of all CO2 emissions in the country.
- In 2015, transportation accounted for 60 million metric tons of carbon dioxide emissions in Pennsylvania.
- Over 20% of all greenhouse gas emissions in the state.
- Almost all of those emissions are based from petroleum use.
- Transportation emissions are the number one source of GHGs in the Northeast and Mid-Atlantic Region.



Transportation & Climate Initiative

- Purpose: Emissions from transportation sector are third leading emissions source in PA and leading source in region.
- Participants: 12 northeast and mid-Atlantic states and the District of Columbia
 - Georgetown Climate Center provides facilitation, conducts research, and supports the states
- Goal: Working together to reduce GHG emissions from transportation







Transportation & Climate Initiative

Background: In 2018, TCI States Engaged Stakeholders and Communities through Listening Sessions.

Through six regional listening sessions stakeholders discussed:

- Transportation needs and opportunities
- Goals for a future, low carbon transportation system for our region
- How different types of policies and actions can help meet those goals



Policy Actions Identified Most Often by Stakeholders

- 1. Price pollution transparently and reinvest proceeds
- 2. Electrify all travel modes
- Incorporate smart growth, zoning changes, transit-oriented development and affordable housing in plans
- 4. Encourage all modes of transportation
- 5. Support alternative fuel use
- 6. Improve ports and other freight facilities





2018 TCI Regional Policy Announcement

- Announcement in December 2018
- "design a regional low-carbon transportation policy proposal that would cap and reduce carbon emissions from the combustion of transportation fuels... and allow each TCI jurisdiction to invest proceeds from the into low carbon and more resilient transportation infrastructure"
- All 13 jurisdictions are participating in the process



TRANSPORTATION & CLIMATE INITIATIVE STATEMENT

December 18, 2018

The Northeast and Mid Attantic states are taking steps to develop cleaner transportation systems that reduce congestion, promote walking, bicycling and transit use, support innovation and economic growth, improve air quality, help communities become realizent to extreme weather events, and equitably share the benefits and burdens among users. Since 2000, we have collaborated through the Transportation and Climate initiative (TCI), recognizing that our states and communities in this region and across the United States are already experiencing the serious impacts of climate change. Emissions from transportation account for the largest portion of the region's carbon pollution and a reson report by the intergovernmental Planel on Climate Change found that ambitious reductions are needed within the next decide to avoid dangerous impacts to public health, infrastructure, and the environment. Advancing love-carbon transportation solutions presents an opportunity for our region to improve the way people and goods move from place to place while addressing the threats posed by carbon and other profultion.

TCI member jurisdictions recognize that a regional low-carbon transportation policy would enable us to cut carbon pollution in line with our emission reduction goals. In 2017, several TCI jurisdictions committee to engage with the public in a conventation about the "Opportunities and challenger, the benefits we would all like to see in the transportation system of the future, and the policies that will enable us to realize this future tegrather." Over the part year, deems of TCI state officials facilitated regional libering residens with 500 stakeholders to discuss low-carbon transportation goals, needs, and policy solutions. A devene group of stakeholders in the region have expressed strong interest in the potential for establishing a market-based policy to reduce carbon pollution from the transportation sector. Public input and other expert policy analyses underscore the potential economic, environmental, and public hashit transfer potential economic, environmental, and public hashit transfer potential economic, environmental, and public hashit transfer oriented development, service-envision vehicles, innovative efficiency strategies, and other exolutions that move people and goods more efficiently while generating less pollution, including in environmental justice communities.

informed by input from hundreds of stakeholders and expert analysis, the participating TCI jurisdictions will design a regional low-carbon transportation policy proposal that would cap and reduce carbon emissions from the conduction of transportation fyels through a cap-and-invest program or other pricing mechanism, and allow each TCI jurisdiction to invest proceeds from the grogarm sets obse-carbon and more resilient transportation infortanturium. This proposed program, when combined with existing programs and complementary policies, will be designed to achieve substantial reductions in transportation sector emissions and provide net economic and social benefits for participating states.

www.transportationandclimate.org



Since The Announcement

Workshops on Equity and Investment:

- Boston, MA April
- Newark, NJ May
- Baltimore, MD July
- Montpelier, VT September

Webinars:

- Cap-and-Invest 101 April
- Modeling Assumptions May
- Reference Case August





pennsylvania

Videos of the workshops and webinars can be found online at:

https://www.transportationandclimate.org/main-menu/tcis-regional-policy-design-process-2019

Other Engagement:

DEP/PennDOT staff have met with other interested groups on TCI including PA Petroleum Association, Sierra Club, American Petroleum Institute, and others.

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Transportation Sector Cap & Invest Basics

How Would Cap and Invest Work?

- 1. Inventory sources of transportation emissions and based on that amount set a "Cap" (or maximum amount) that can come from those sources.
 - In the case of the transportation sector, emissions come from many different sources on every road and highway in the Commonwealth.

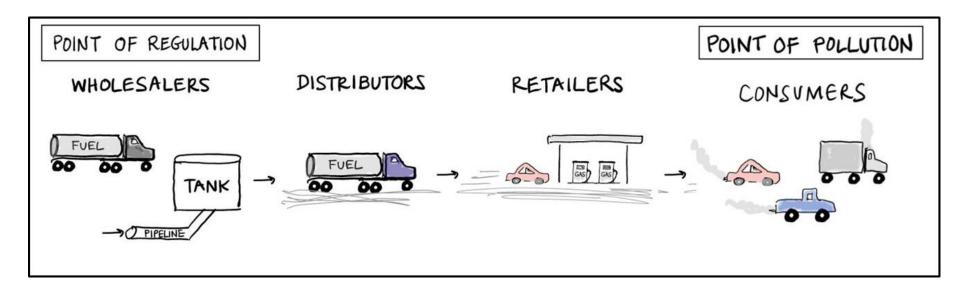
So how do we inventory emissions?

 Emissions from transportation are directly proportional to the amount of fuel use and there are known emissions factors for the combustion of a given quantity of gasoline or diesel.

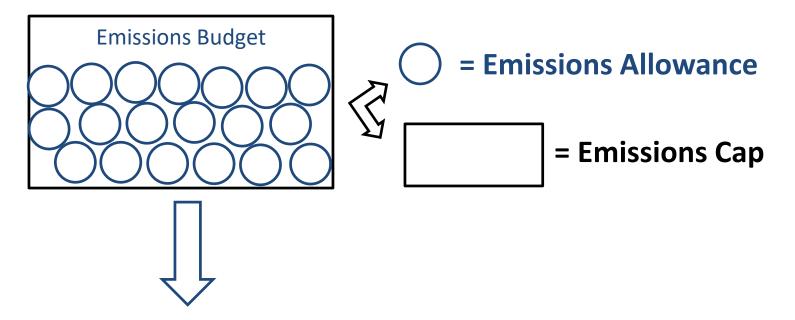
Bottom line: If we can quantify the amount gasoline and diesel being sold, we can quantify the amount of emissions that will come from that fuel.



We can efficiently quantify the amount of fuel sold, and therefore the corresponding emissions, at the wholesale level.

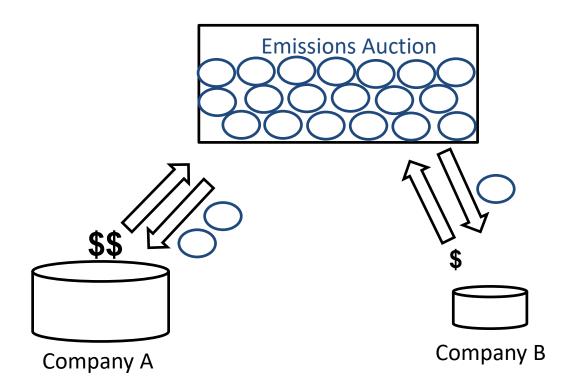


2. Once the Cap is set, you can distribute an equivalent amount of "Emissions Allowances" into a marketplace.

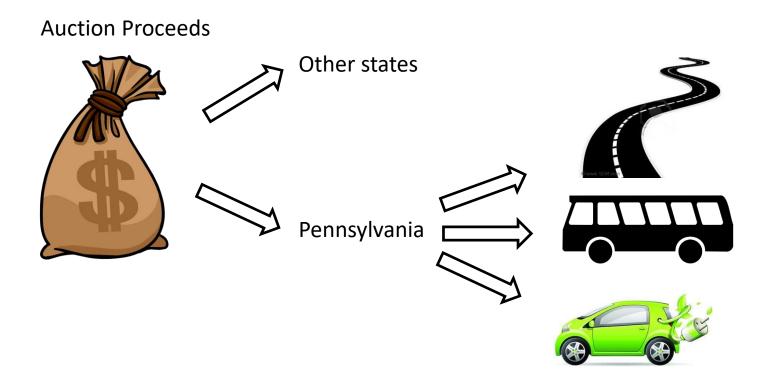


Allowances are distributed into the marketplace

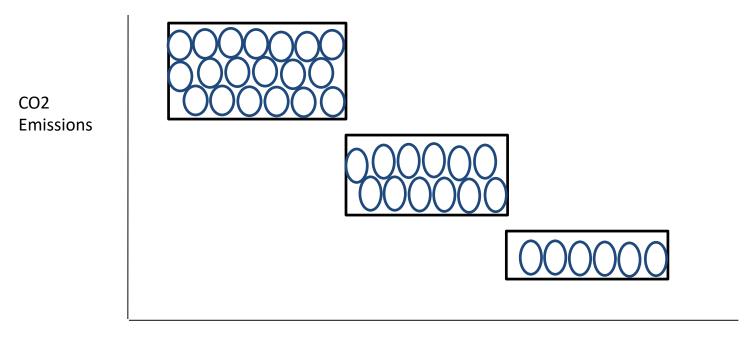
- 3. Once the Emissions Allowances are entered into the marketplace, fuel suppliers attain a number of allowances through an auction equal to the amount of carbon content of fuel they sell.
 - Fuel suppliers are given a set amount of time (called a compliance period) to attain enough allowances.



4. The auction proceeds are given to each participating state to invest in low carbon transportation programs.



5. The total Cap is reduced over time, incentivizing technologies and fuels with less carbon content and lowering total emissions year over year.



Time

Considerations for Pennsylvania

- Pennsylvania has committed to being a part of the discussion in design of the potential regional program. Key considerations specific to Pennsylvania:
 - Equity between rural/urban/suburban areas
 - Large agricultural industry
 - Already have high gas tax



Recent Development: Seeking Public Input

- TCI recently announced release of a framework for a Draft Regional Policy Proposal
 - Includes key elements of a proposed program such as Equity, Applicability, Compliance and Enforcement, Flexibility and Allocations, Program Administration, and other elements.
- Also released:
 - Summary of Public Input so far
 - Modeling Update
 - Timeline of things going forward



Next Steps

- Looking forward, Pennsylvania is committed to being part of the TCI Cap and Invest conversations along with the other jurisdictions.
- Draft MOU is expected to be released mid-December and finalized with a Model Rule around March 2020.
- Modeling results will be released at the same time.
- At this time, PA is not making any decisions on program adoption until the program is fully designed, modeling results are complete, and staff can hear from interested communities, businesses, and other stakeholders.











Policy Office

Thank you!

SPEAKER

ROLE DEP Policy Office