



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 Lyme-bearing 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.

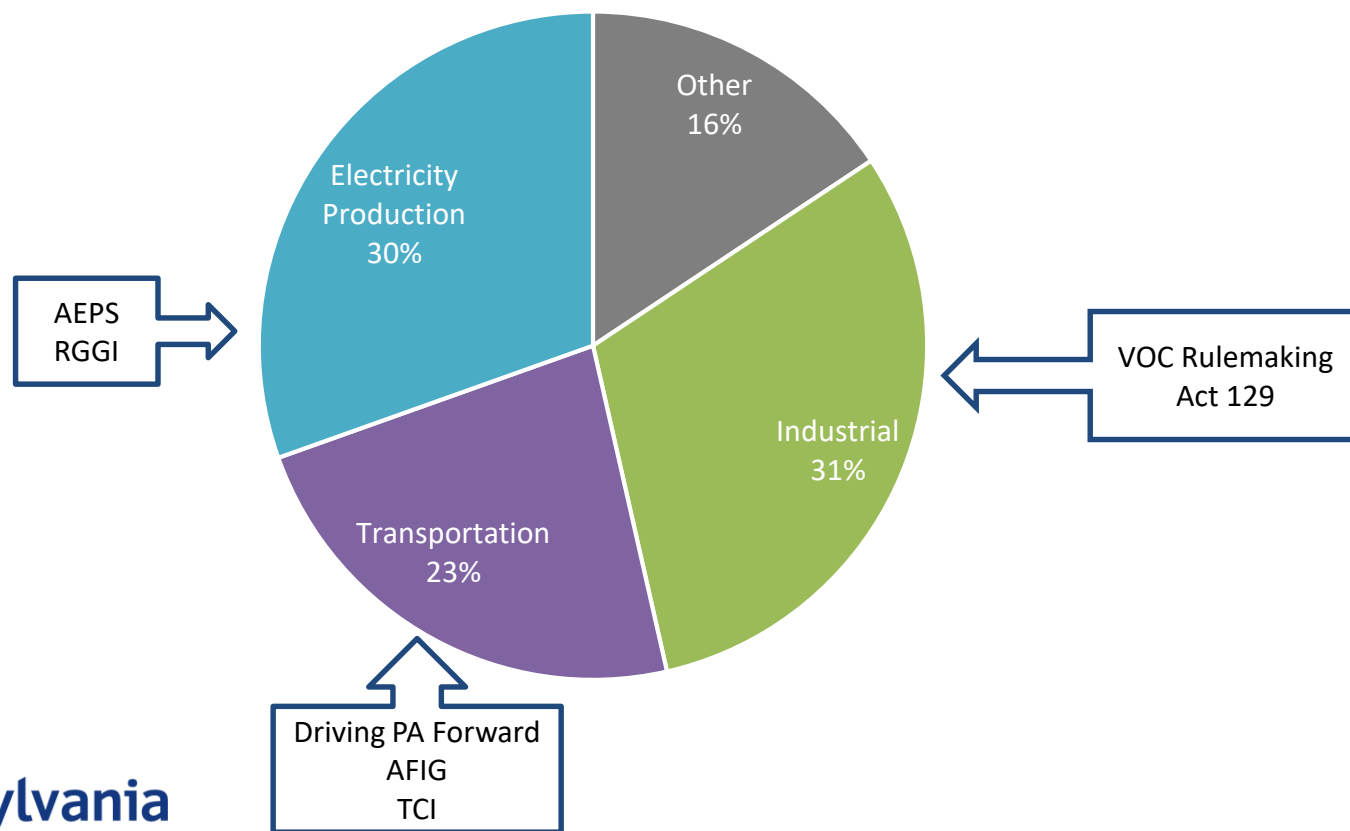
## Governor Wolf Establishes First Statewide Goal to Reduce Carbon Pollution in Pennsylvania

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 CO<sub>2</sub> emissions in electricity production sector, while other initiatives are targeting emissions in the other key sectors.*

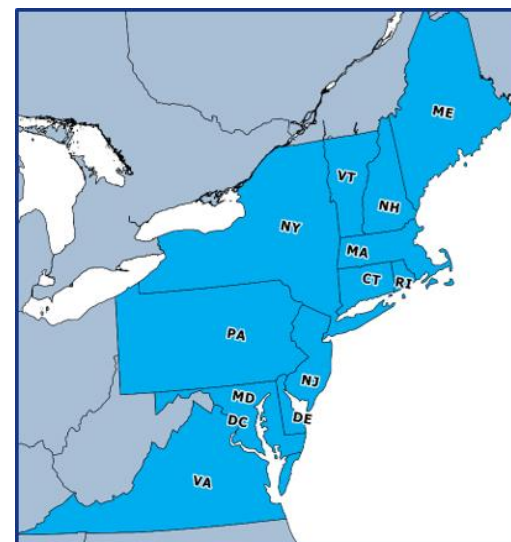


# Transportation in Pennsylvania

- Transportation accounts for one-third of all CO<sub>2</sub> 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
3. 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



# 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



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.

## *How Would Cap and Invest Work?*

# 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?*

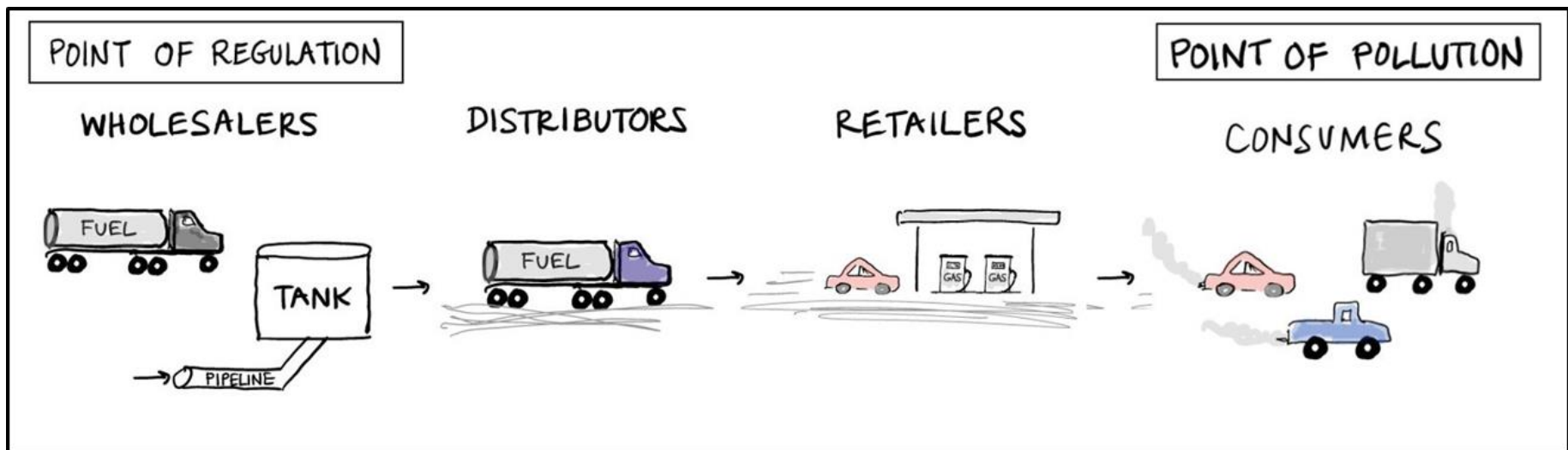
- Emissions from transportation are directly proportional to the amount of fuel use and there are known emissions factors for the combustion of a given quantity of gasoline or diesel.

**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.**



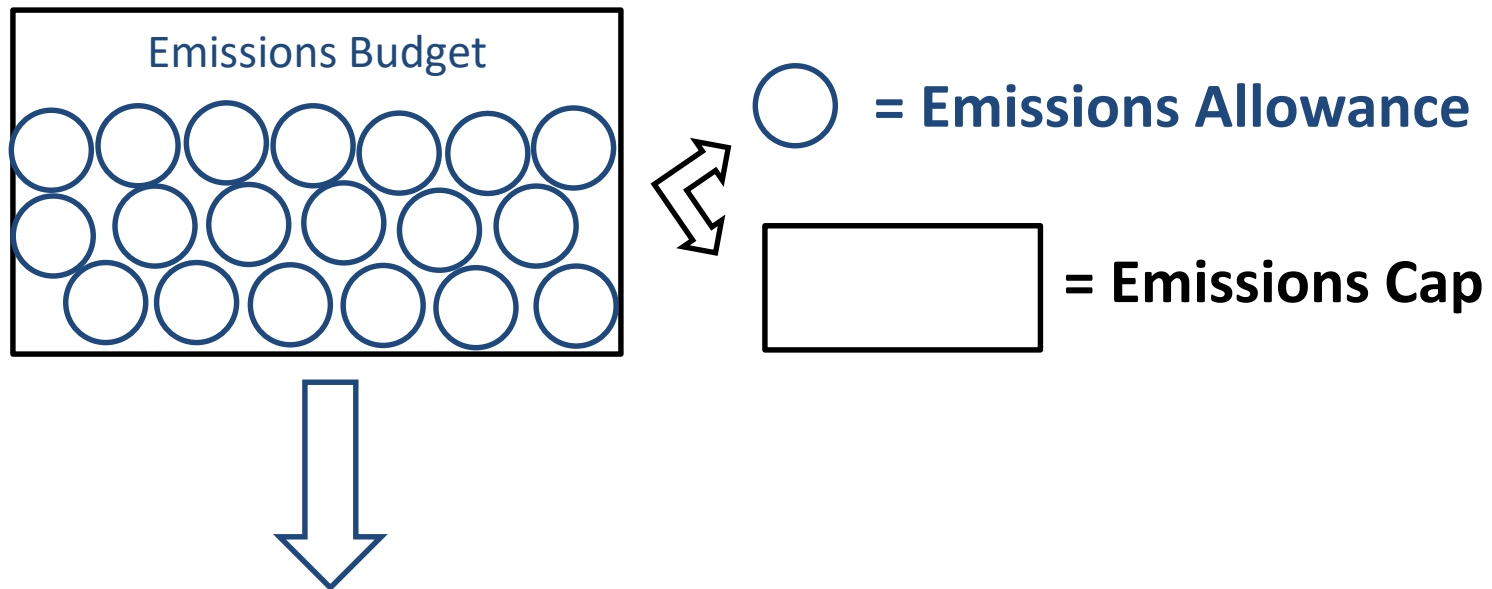
# How Would Cap and Invest Work?

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



# How Would Cap and Invest Work?

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

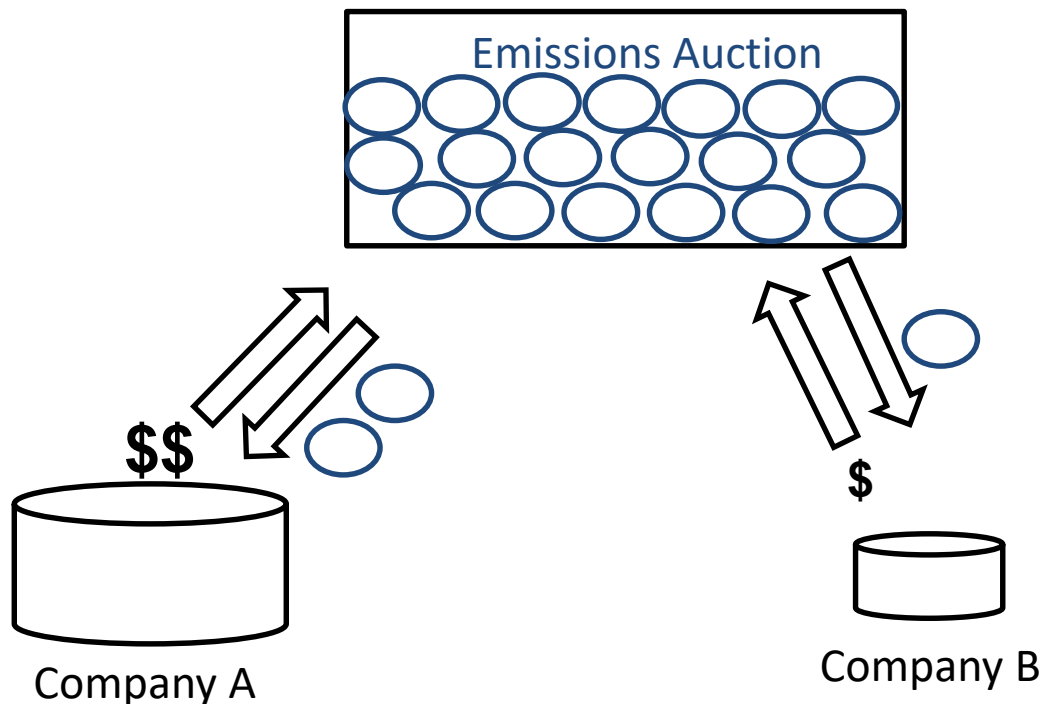


Allowances are distributed into the marketplace

# How Would Cap and Invest Work?

**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.**

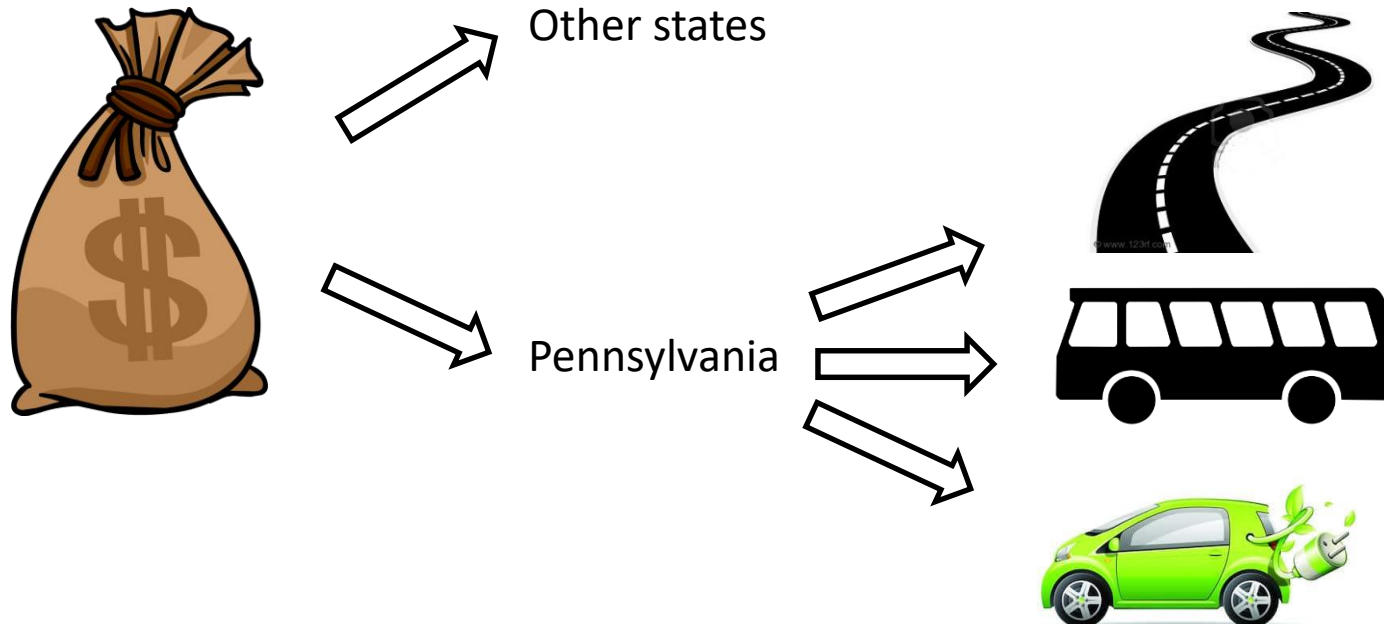
- Fuel suppliers are given a set amount of time (called a compliance period) to attain enough allowances.



# How Would Cap and Invest Work?

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

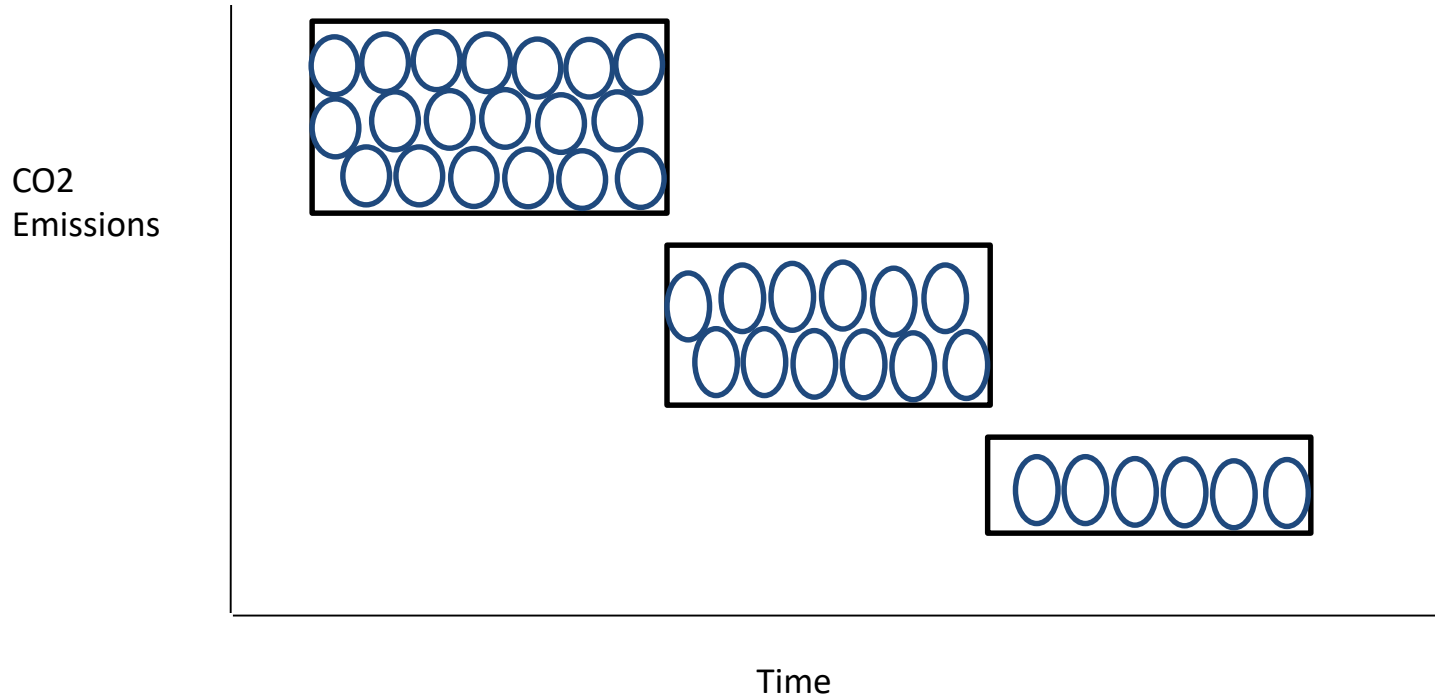
Auction Proceeds





# How Would Cap and Invest Work?

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



# 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