

# Health Impact Assessment of New York State Adoption of the California Omnibus and ACT Regulations



By Mahdi Ahmadi, Under Contract to NESCAUM

June 2021

# Health Impact Assessment

- COBRA version 4.0
- Geography: New York State
- Three emission reduction scenarios
- Model years: 2025 through 2040

# Emission Reduction Scenarios (tons)\*

**ACT/HD Low  
NOx/GHG Phase 2  
Adoption**

<b>Scenario 2 benefits (relative to BAU)</b>				
<b>Year</b>	<b>NOx</b>	<b>SO2</b>	<b>VOC</b>	<b>Total PM2.5</b>
2025	325.01	0.15	6.43	0.75
2050	8,964	13	479	44

**ACT/GHG Phase 2  
Adoption**

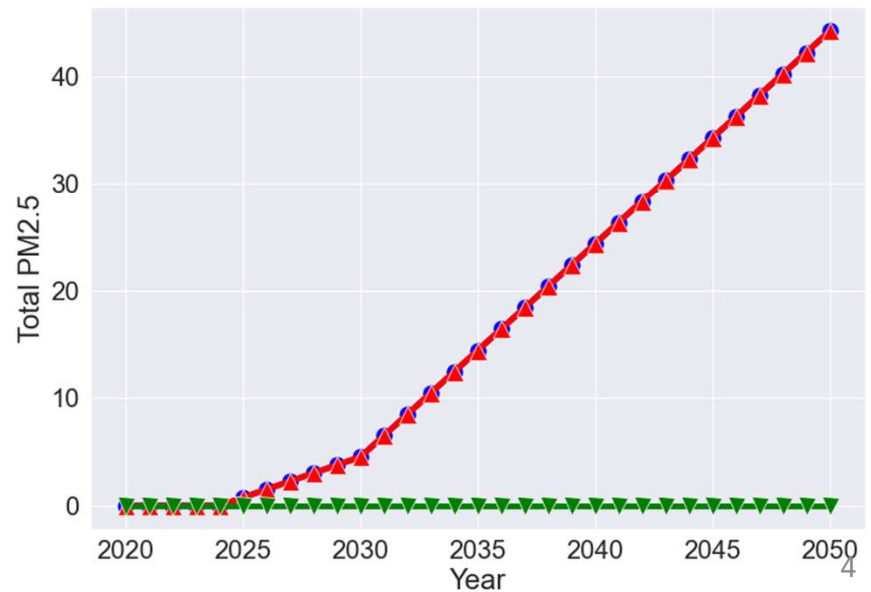
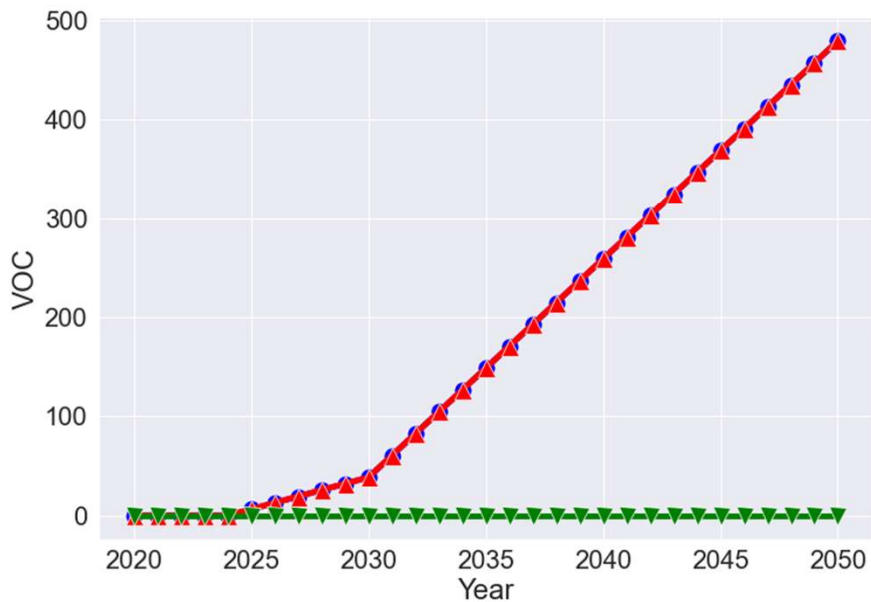
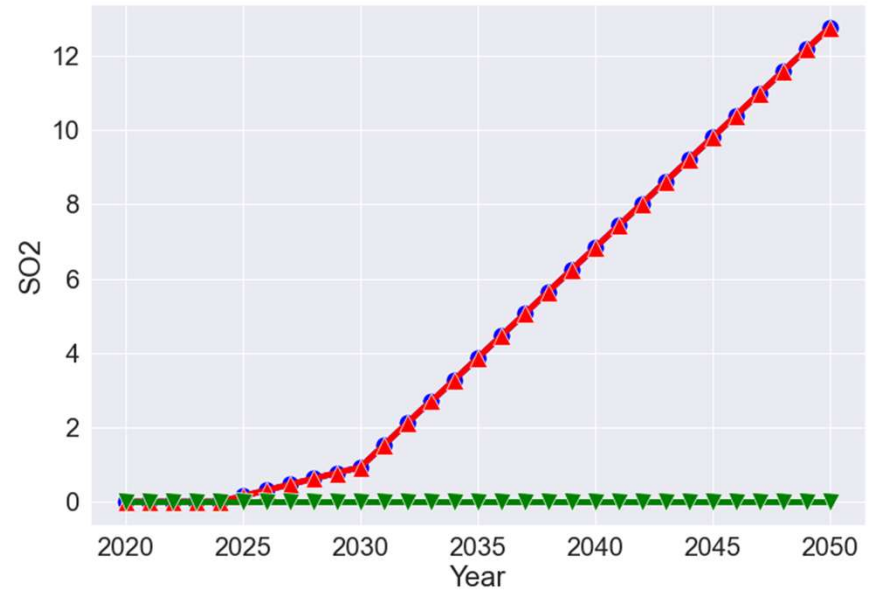
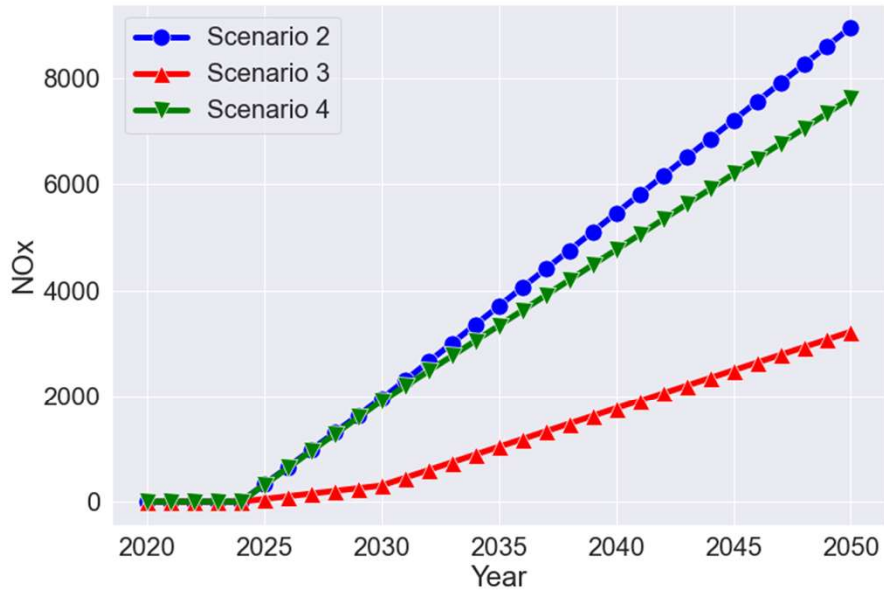
<b>Scenario 3 benefits (relative to BAU)</b>				
<b>Year</b>	<b>NOx</b>	<b>SO2</b>	<b>VOC</b>	<b>Total PM2.5</b>
2025	50.56	0.15	6.43	0.75
2050	3,222	13	479	44

**HD Low NOx Only  
Adoption**

<b>Scenario 4 benefits (relative to BAU)</b>				
<b>Year</b>	<b>NOx</b>	<b>SO2</b>	<b>VOC</b>	<b>Total PM2.5</b>
2025	317.43	0	0	0
2050	7,630	0	0	0

\* International Council on Clean Transportation, "Benefits of Adopting California medium- and heavy-duty regulations in New York State," 2021 see: <https://theicct.org/publications/nys-hdv-regulation-benefits-may2021>

# Emission Reduction Trends (tons)



# Data Projection

- NYS Population projection for 2025-2040:
  - [2017 US Census Bureau National Population Projections](#) as the baseline
  - Baseline population was adjusted at the state and county levels using COBRA population inventory database
- Valuation functions projected for 2025 through 2040 using a linear prediction based on the COBRA valuation inventory database

# COBRA Input and Settings

- Emission baseline year and S-R matrix and adjustment factors: 2016
- Incidence and Health effect functions: 2028\*
- Population and Valuation functions: projected
- Discount rate: 3%
- Source of emission reductions: ICCT (80% Diesel/20% Gasoline Highway Vehicles)

\* Selected 2028 for the incidence and health effect COBRA built-in functions because of its proximity to 2025

# Statewide Estimated Cumulative Health Impacts\*

## 2025-2040

Scenario	Item	Avoided Premature Deaths	Avoided Hospitalizations for Cardiovascular Illness	Avoided Hospitalizations for Respiratory Illness	Avoided ER Visits	Total**
<b>3</b>	# Incidents	15 - 35	4	4	9	-
	Valuation	\$184 - \$416	\$0.22	\$0.15	\$0.005	<b>\$188 - \$423</b>

\* Valuations are in million \$2018

\*\* Total includes additional COBRA calculated health impacts (e.g., lost work days)